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The Nebraska State Medical Journal

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ABERRANT APPENDIX

A. I. McKINNON, M. D.,
Lincoln, Nebraska.

Ordinarily when we discuss appendicitis, we presuppose that the organ is free in the right iliac fossa. Not infrequently we find that the appendix is located far from the normal habitat. This observation can be verified by any surgeon who will operate for appendicitis with a local anesthetic. Many times he will be surprised and chagrined upon making the orthodox McBurney incision to discover that the appendix is not in the right iliac fossa. This necessitates giving the patient a general anesthetic, enlarging the incision and exploring for the appendix.

A few experiences of this kind will compel the surgeon who operates under a local anesthetic to locate the appendix in order to make the proper incision. With a little practice this ability can easily be acquired. Personally I think it is as important for a surgeon to diagnose the position of the appendix before operating, as it is for the internist to diagnose the location of a lung abscess.

I am not making this suggestion to the operator who makes a long incision, and who explores extensively before finding the appendix. This refinement in diagnosis is only for surgeons.

A workable classification for appendicitis is as follows: First, free in the right iliac fossa; second, retrocecal, with adhesions; third, retrocolic; fourth, pelvic; fifth, on the left side of abdomen.

The symptoms of typical appendicitis need no elaboration. In retrocecal appendicitis, there is pain and colic as in typical cases. Following the acute attack, the inflammation is localized behind the bowel. In this position symptoms are entirely different from that of the pathologic appendix in the right iliac fossa.

In retrocecal appendicitis movements of the legs cause pain in the region of the psoas and iliacus muscles, while in typical appendicitis the movement of abdominal muscles causes the pain. In the one the patient is up and walking around with only slight pain, and in the other the patient is bedfast with the knees drawn up. Pain may be transmitted along ureter to bladder, in retrocecal and retrocolic positions.

In retrocolic appendicitis there is generally a history of attacks of colic in upper right quadrant, many times mistaken for biliary or renal colic, and almost invariably a history of indigestion or stomach ulcer.

In acute suppurative or gangrenous attacks the symptoms may be exaggerated. Eventually the acute symptoms subside, due to relief of tension when the appendix perforates. Naturally the patient thinks that this attack, like former ones, has cleared up. Following the perforation, pus will accummulate in the retrocolic space, and the patient will be up and around, and during this time he has none of the classical symptoms of ruptured appendix.

As the abscess grows larger, it breaks into the peritoneal cavity and you get a general peritonitis.

In the pelvic appendicitis, particularly in women, there are no typical signs or symptoms early in the attack. It is generally classed as an ovarian pain or salpingitis. It likewise may go through the stage of swelling and perforation without the patient being bedfast. When the pus oozes or leakes into the abdominal cavity may be the first occasion for calling a physician.

The following case reports illustrate the above discussion of the aberrant appendix:

1. Mr. F. History for a few years of pain in right upper quadrant, with diagnosis of biliary or renal colic, with recurrent attacks. He gave an address before a society one night and was apparently in good health. During the night he was awakened with pain in the abdomen. I saw him at noon the next day, with geneal peritonitis I operated on him. Found a perforated retrocolic appendix with the abscess leaking into the peritoneal cavity. Convalescence was stormy for a few days, but he has been in good health since.

2. Mrs. H. Was in the hospital a number of times for an obscure abdominal trouble in the right upper quadrant. She was at a famous surgical clinic for nine weeks within a year from my consultation. They found her metabolism to be low. They fed her on thyroid tablets, and recommended them for further use. I made a diagnosis of a retrocolic appendix, with appendicular colic. This was demonstrated by the x-ray. The appendix showed up high, after the colon was emptied of barium. Its position was retrocolic. After removing the appendix, she has had no further use for hospitals.

3. Mr. C. Brought to the hospital in the morning, complained of indigestion for three to four days. He was not bedfast. The afternoon previous he had a tooth pulled, the next morning was the first time the physician was called. He diagnosed it ruptured appendix and general peritonitis. At operation the appendix was found behind the cecum. The appendix was perforated, and the cecum adherent to the iliac fossa. Acute symptoms were caused by leakage of pus into the peritoneal cavity.

4. Miss B. Vaudeville dancer. She had obscure abdominal pains for a few days, but went through her act at every performance, including Saturday night. I saw her Sunday morning and operated on her immediately, and a gangrenous non perforated appendix was found adherent in the pouch of Douglas. The appendix was removed, the patient recovered.

5. Mrs. G. She was an aged woman having a tumor mass in the left iliac region. She was sent to the hospital with that diagnosis. I diagnosed her as having peritonitis, and at operation found a perforated appendix attached to a mobile cecum on the left side, with abscess formation that leaked, causing a general peritonitis.

CONCLUSION

The mortality rate of appendicitis is appallingly high regardless of the fact that much has been written and discussed on how to lower the mortality. This condition cannot be remedied until the profession learns to differentiate the several kinds of appendicitis discussed above. The slogan "operate early" is good but "diagnose correctly" is more essential, for many cases of aberrant appendicitis have been through the hands of many physicians without the proper label, but ultimately operated on and ruptured appendix found. In all cases of general peritonitis, there is great danger of paralytic ilius with resulting toxemia from absorption of intestinal contents. The latter can easily be prevented by a complemental jejunostomy at the time peritoneal drainage is instituted.

It is my firm conviction that the high mortality of appendicitis is due to the physician's failure to diagnose an acute inflammation of an aberrant appendix. These cases are not referred to a surgeon until peritonitis supervenes.

DISCUSSION

CLYDE ROEDER, M. D., (Omaha): In the department of medicine of the University of Nebraska our clinical pathologist, Dr. Miller, has been checking up removed appendices from the standpoint of the microscope in order to determine just what chronic appendicitis is The clinical and the microscopic pictures differ; a troublesome appendix, appearing in situ far from normal, may show nothing abnormal under the microscope. After a year's discussion pro and con, Dr. Miller concluded that chronic inflammation cannot always be determined by the microscope. The deeper we go into this subject, the more we are inclined to agree with him.

MAX EMMERT, M. D., (Omaha): There is always something about the appendix that interests us. Irrespective of how experienced a surgeon may be, if he finds an appendix out of the ordinary it gives him a thrill.

I was much interested in Dr. McKinnon's paper, especially with regard to retrocecal appendix, because I think from my own experience the majority of appendices I have seen are retrocecal. It frequently is not diagnosed early, as has been well brought out. There is just one little trick in its diagnosis I think will place its position—namely, if you roll your patient on the left side, you will find a tenderness as you come in from the back as you approach the ascending colon. The cecum tends to roll out so that the tenderness is more marked than when the patient is on his back. Also, you do not get your point of tenderness in the chest position. Even in the prone position you will get the pain towards the rear.

There is a little point that arises that makes differentiation difficult from pyelitis in the frequency with which you find pus and red blood cells in the urine associated with retrocecal appendix.

There is one thing about a retrocecal appendix I want to mention. The outstanding point in connection with it that makes me suspicious of the condition is the exceeding tenderness, which is localized, out of all proportion to the other symptoms. The patient's temperature, pulse, and white blood count may be normal. The tenderness is suggestive of gangrenous appendix. The vast majority of people over fifty who develop appendicitis develop the gangrenous form.

I wish to take issue with Dr. McKinnon in regard to local anesthesia. I think it is ideal for any abdominal operation and especially for appendicitis, and more especially for the appendix in older people. The danger from the ether anesthetic is that you will start something which leaves its effect upon the patient. With local, you get away from that entirely. The element of danger associated with local anesthesia is practically nil. Any general anesthesia, especially ether, leaves an after effect on the patient, in my opinion.

ALFRED BROWN, M. D., (Omaha): The forms of aberrant appendicitis which give symptoms differing from those of the ordinary appendicitis, have been most thoroughly and exhaustively covered by Dr. McKinnon. In discussing aberrant appendicitis there is one form in which the appendix, rather than the symptoms, differs from the classical type, which I think we should keep in mind constantly in making a diagnosis. In this form the symptoms are typical of acute catarrhal appendicitis with tenderness over McBurney's point, rigidity of the right rectus muscle, a slight fever, and a moderate leucocytosis. The appendix, however, due to a non-rotation of the large bowel, lies on the left, and not on the right side of the abdomen. The explanation of the symptomatology is, that though the appendix has not reached its proper anatomical position in the right iliac fossa, the nerve supply is normal, and the reflex arc through the sympathetic nerve, delivers the stimulus to the sensory nerves of the right side of the body. This may occur with non-rotation of the large bowel alone, but in the reported cases there is also a complete transposition of the viscera.

I have seen one case of this type in the past four years, and several cases have been reported. It is interesting to note that in the majority of these cases, the incision was made on the right side of the abdomen because of the symptoms. This calls up a point I should like to emphasize, for it was emphasized to me personally in my case: It is that every patient should have a complete physical examination, including a mapping out of the heart, before operation. If my case had had a complete physical examination, the diagnosis of situs inversus would have been made, and it would not have been necessary to reach over to the left side of the abdomen to get the appendix. It is worth while to carry in mind the fact that catarrhal appendicitis with a left sided appendix may give classical right sided symptoms.

B. B. DAVIS, M. D., (Omaha): I am very glad Dr. McKinnon has brought this to our attention. I think most of us are inclined to look upon the diagnosis of appendicitis as being a simple thing and a thing one should not miss. To be sure, if the appendix is in the classical position it is a very easy thing to diagnose. Oftentimes the family of the patient make the diagnosis before the doctor gets there. But these cases where the position is so changed are oftentimes exceedingly difficult. I have seen within the last year at least half a dozen cases of retrocecal appendix where the diagnosis has not been made for several years, and the result was we had a retrocecal abscess simply because of the unclassical type of symptoms the patient showed.

I have also had in my experience quite a number of cases of appendix where we have non-rotation of the colon. In one case we had a gangrenous perforated appendix. All I could do was to say the patient was too sick for x-ray work, and I made a diagnosis of peritonitis and did not know from what source. I made my incision and found the appendix toward the left.

In one case I made a diagnosis of pus deep in the culdesac. It turned out to be an appendix containing pus.

I had one experience where I took out an inflamed appendix from a left-sided hernia. The man began having pain in this big hernia. When I got in, I found an acute appendix within the left hernial sac.

So the appendix can be in all sort of positions and I think we should have this in mind when we meet with any case suffering from abdominal symptoms.

DR. McKINNON (closing the discussion): As far as pain is concerned: There is no pain connected with crushing and cutting off the appendix. When you tie off the mesentery there is pain. In fact, there is no pain associated with surgery of the visceral peritoneum. This does not hold true of the parietal peritoneum.

The mesentery is the only sensitive organ in the abdomen, and must be blocked before doing any surgery on any attached viscus. Colic is caused by meeting of forward and reversed peristalsis waves causing a tug on attached mesentery.

The retrocecal appendix does not mean much ordinarily if the cecum is movable, and the appendix is movable on its mesentery. However, if the appendix is adherent behind the cecum and the cecum is adherent to the iliac fossa, that's a different story—the symptoms are not typical and a diagnosis is not often made until peritonitis supervenes.

STANDARDS IN ROENTGENOLOGY

P. M. Hickey, Ann Arbor, Mich. (*Journal A. M. A.*, Sept. 3, 1927), pleads for greater uniformity in teaching roentgenology to undergraduate students; and that roentgenologists make a determined effort to require a higher standard of qualifications in those practicing this specialty; that a more uniform type of roentgenray reports be established in clinics and hospitals, and that a standard nomenclature be adopted for the purpose of clarifying the literature.

OTITIC BRAIN ABSCESS WITH REPORT OF A CASE*

EARL B. BROOKS, M. D.,
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A localized collection of pus within the cranial cavity may be observed as a complication of either acute or chronic aural suppuration. While the majority of brain abscesses occur in the course of chronic cases about 20% are due to acute suppurative otitis media.

FREQUENCY

Hirzinga(1) of the University of Groningen, Holland, for a period of fifteen years, reports 28 cases of otitic brain abscess, of which four were cerebellar with one recovery, 24 were cerebral with nine recoveries.

Yerger(2), in a study of intracranial complication of suppurative otitis media at Cook County Hospital in the decade 1911 to 1920, inclusive, found that meningitis ranked first, sinus thrombosis second and brain abscess third in order of frequency. There were 64 brain abscesses from all causes, 23 of otitic origin, 18 of these were operated, one recovery. Of the cases in which the diagnosis was confirmed by operation or autopsy, 65% were temporosphenoidal, 23% occipital and 12% cerebellar.

PATHOLOGY

Infection passing through the tegmen commonly localizes in the temporosphenoidal lobe and results in a single abscess; while that about the knee of the sinus is prone to localize in the anterior aspect of the lateral portion of the cerebellum and may produce multiple abscesses. Occasionally there occurs an abscess of the frontal lobe, of otitic origin, but these are always metastatic in character.

Infection having reached the dura, serious intracranial complications do not necessarily result. Frequently in the progress of a mastoid operation exposure of dura discloses pus and granulations, evidences of the defensive reaction which the dura interposes and thus limits the inflammation to the extra dural space for a considerable period of time.

Brain abscess is always caused by bacterial invasion of the brain tissue. The extension of the infection takes place in two ways, first, by direct extension of tissue necrosis from the tympanic cavity to the brain, second along the blood vessels.

Given a case of coalescent mastoiditis where there results a death of the mastoid cells en masse, if adequate drainage is not afforded in a reasonable time there takes place an osteomyelitis of the inner table of the temporal bone. This may take place at any point but is more often found at the roof of the tympanic cavity or antrum or in the vicinity of the knee of the lateral sinus.

If the infection is not clinically recognized at this point and drainage provided, there occurs extension into the pia arachnoid meshes with formation of adjacent meningeal or subdural abscesses. This, as it enlarges, may cause superficial brain necrosis but, Eagleton(3) thinks, never intra-cerebral abscess. The second type of invasion, namely along the blood vessels, is thought by Kopetzky(4) to be the sequel of the hemorrhagic type of mastoiditis in which the mastoid veins and capillaries are the seat of small thrombi. From these an osteo-thrombotic phlebitis results with extension to the veins of the pia or cerebrum, forming an obliterating thrombus and abscess. The superior petrosal sinus receiving veins from both the tympanic cavity and the cortex of the temporal lobe constitutes an indirect vascular link through which infection may extend. The lateral sinus likewise forms a link between the mastoid cavity and the cerebellar hemisphere.

The exact method of extension along the blood vessels is not known. Where there exists a thrombosis of the lateral sinus, its infected contents may be dammed back into the tributaries thus carrying organisms to the poorly resistant cerebral tissue. Then, too, it is possible that merely a phlebitis with its consequent retardation of the blood current may cause the forcing back of infectious material. Abscesses secondary to tympanic and mastoid inflammation occur in both the temporal lobe and cerebellar hemisphere without any visible connecting tract, and it is thought, they are due to the above described anatomical relation.

The behaviour of the brain with regard the formation of the abscess wall once infection is introduced, depends on a number of factors:

(1). The type of the invading microorganism, one of low virulence causing a more gradual accumulation of pus than one of greater virulence and allowing sufficient time for the protective reaction of the tissues.

(2). The resistance of the infected tissue is important. The protective reaction takes place principally in two kinds of tissue, fibrous mesoblastic and glial epiblastic tissue. Fibrous tissue is much more effective, but unfortunately is almost unavailable in the deep substance of the brain where glial tissue must suffice.

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*Presented to the Lancaster County Medical Society, November 1, 1927.

(3). Abscess wall formation is affected by the mode of infection. Bagley⁽⁵⁾ enumerates the following types of abscess wall:

a. Dense fibrous mesoblastic tissue wall.

b. Fairly firm wall containing some fibers from neighboring mesoblastic tissue.

c. Walls of various thickness, the result of glial proliferation.

d. Walls showing no evidence of protective reaction.

SYMPTOMATOLOGY

As one reads the ordinary text book description of brain abscess its diagnosis seems a simple matter. however, in practice this is not so easy. There are a number of reasons for this:

1. The fact that the temporosphenoidal lobe is a silent area of the brain. It may be the seat of a large collection of pus without any localizing symptoms. True, if we wait long enough, there will usually be observed the classical picture but the chance of a successful operation is reduced to a minimum so that if we are to improve on the present rather high mortality the diagnosis must be made earlier.

2. In the progress from the acute to the chronic stage with the formation of a capsule, active and latent periods occur. During the latter the patient goes about his business in apparent good health. Harper(6) relates a case illustrative of this: A man travelling in the north of England was taken with what was diagnosed influenza, slight rigor, headache, temperature 101. Four days later temperature normal, headache much better, but there was great weakness. He returned to Glasglow and consulted his family physician who referred him to Dr. Harper. Headache had disappeared, temperature normal, pulse fifty. A history of discharging ear for 16 years was elicited. The membrane tympani and contents of the middle ear had been destroyed. When the patient attempted to stand he was weak in the right leg and the grip of the right hand was definitely weaker than that of the left. Operation showed a necrotic mastoid, a large abscess was evacuated from the temporosphenoidal lobe with recovery.

3. Considerable confusion arises from the failure to discriminate between the symptoms of (1) cerebral suppuration, (2) cerebral compression and (3) localizing symptoms. In discussing this phase of the subject I wish to follow the headings above as suggested by Dr. Eagleton(3). Given a history of ear infection symptoms suggestive of 1. cerebral suppuration are:

a. Initial vague chill, this may not have been noticed particularly by the patient and careful questioning may be necessary to elicit it.

b. Headache, persistent, dull in character, may be all over the head or limited to the affected side.

c. Vomiting irregular and without apparent cause.

d. General malaise.

e. Disproportion between the apparent mastoid lesion and the severity of the symptoms.

Positive evidences of cerebral suppuration are:

a. Protective meningitis evidenced by lumbar puncture with high cell count.

b. Convulsions—in the presence of ear or nose suppuration are a positive sign of intra cranial involvement.

c. Irregular subnormal temperature.

II. *Specific signs* of *cerebral compression are:*

a. Slow pulse, continuous and accompanied by papilloedema or coma.

b. Blood pressure, a rise is noted in acute compression involving the medullary centers. But blood pressure readings are of little or no value in the slow developing chronic compression of brain abscess.

c. Projectile vomiting is infrequent in cerebral compression but of frequent occurrence in cerebellar abscess.

d. Ocular paralysis—6th and 3rd nerve involvements are of value as signs of transmitted intra cranial pressure, but of no value as localizing symptoms.

e. Coma—is the terminal stage of compression. The mortality is high in cases presenting coma because cerebral compression means extension of cerebral suppuration.

f. Papilloedema—not always present, indicates a mild form of compression. When present it is usually on the side of the lesion. Choked disc may develop as a result of acute obstruction to the return circulation from the cranial cavity and retina, it indicates greatly increased intracranial pressure.

III. *Localizing symptoms:*

Pathognomonic signs of temporosphenoidal lobe abscess:

a. Naming aphasia—present in a right handed man with lesions in left hemisphere is pathognomonic. It is apt to be transient in the early stages and becomes complete only after compression develops.

b. Hemianopsia, due to the involvement of the association fibers running from the adjacent center in the cuneus to the geniculate bodies, Myers tract. It may be transient but has been shown to persist for 3 to 5 years after the cure of the abscess.

Other Symptoms are:

a. Word deafness.

b. Facial paralysis of the opposite side. This is of the cortical type in which only the muscles of the lower part of the face are involved and precedes paralysis of the arm and leg.

c. Paralysis of the contralateral arm—it is a paresis or paralysis of the arm which comes and goes and is a frequent localizing symptom.

d. Contralateral hemiplegia rarely occurs but when present is progressive—face, arm and leg.

Symptoms which are of assistance are:

a. Pain in teeth and behind the eyes due to the involvement of the gasserian ganglion at the apex of the petrous pyramid of the affected side.

b. Dreamy state.

c. Psychic manifestations of toxic delirium.

d. Uncinate symptoms—illusions of taste and smell.

Diagnosis of cerebellar abscess.

Given a case of suspected cerebral suppuration:

1. A non-reactable labyrinth is suggestive. Labyrinthitis accounts for 44% of cerebellar abscesses and perilabyrinthitis, that is, caries of the petrous bone 18% more.

2. A known lateral sinus thrombosis is the avenue of infection in 33%.

3. Vertical nystagmus and lateral deviation of the eyes either transient or continuous are definite indications of cerebellar involvement.

I. *Manifestations* of *impaired cerebellar functions:*

a. Asynergia, i. e., disturbances of coordination, muscular tone and inhibition of muscular movements.

b. Cerebellar paralysis, which is homolateral and incomplete.

c. Forced cerebellar attitude—lying on one side in a semi-flexed position.

d. Cerebellar ataxia, made up of three parts, (1) asthenia, loss of muscular strength, (2) muscular atonia, loss of tone and (3) muscular astasia, the latter being a combination of tremor, rythmic oscillating movements and lack of inhibition.

II. *Manifestations* of *involvement* of *cerebellar portions* of the *vestibular apparatus.*

a. Spontaneous: The onset of nystagmus, past pointing and falling in labyrinthitis is sudden and complete and with the advent of compensation they disappear in the following order, first nystagmus, second falling, third past pointing.

In cerebellar lesions the onset is incomplete.

(1). Nystagmus is due to asynergia of the ocular muscles, it is oscillating in type and toward the side of the lesion with a vertical tendency. Compensation may alter or eliminate it altogether.

(2). Vertigo which is not altered by caloric or rotation tests is an evidence of cerebellar lesion.

(3). Falling is toward the side of the lesion and not influenced by change in the position of the head. Compensation may alter the direction and type or abolish it.

(4). Past pointing — abnormalities are frequent and not of localizing value.

b. *Induced vestibular reactions* are apt to be very changing and repeated tests should be made before pronouncing a cerebellum normal in function. The changing character of both spontaneous and induced vestibular reactions is suggestive of cerebellar disease.

The pressure of a protective exudate over the anterior aspect of the cerebellum opposite the internal auditory meatus,—the common site of intra pia arachnoid abscess from labyrinth suppuration uniformly produces:

1. Reduction of obtainable horizontal canal nystagmus after turning.

2. Reduction or complete absence of reactibility of vertical canals of both ears to cold caloric. This is present early, long before papillo-edema and should be helpful in the early diagnosis of intra cranial pressure.

III. *Manifestations* of *direct pressure.*

Local. a. Hyperesthesia of face, of homolateral side.

b. Diminution of corneal reflex of homolateral side.

c. Deviation of the tongue.

(1). If from direct pressure away from the side of the lesion.

(2). If from supra nuclear involvement toward the side of the lesion.

General symptoms suggestive of *cerebellar involvement.*

a. Suboccipital tenderness and rigidity of the neck.

b. Yawning.

c. Rapid loss of flesh.

d. Alteration of the knee jerks.

e. Projectile vomiting.

f. Psychic disturbances and cerebellar fits, including poor perception and disorientation for time and place.

Symptoms due to *transmitted pressure* from *internal hydrocephalus.*

a. Stupor.

b. Alteration of the reflexes.
c. Epileptiform seizures.
d. Intense and paroxysmal headaches.
e. Suboccipital tenderness.
f. Opisthotonos.
g. Sugar in the urine.
h. Vomiting.
i. Papilloedema.
j. 6th nerve paralysis from pressure at apex of petrous bone.
k. 3rd nerve paralysis from pressure between internal carotid, the distended floor of the 3rd ventricle and the intra chiasmal cisterna.

TREATMENT

As a preventive measure against intracranial complication Black(7) advocates doing a radical mastoidectomy on cases of suppurating ear that are not cured after a few months treatment. Once a probable diagnosis of brain abscess has been made based upon a history of discharging ear, together with, more or less general symptomatology of intracranial suppuration and localizing symptoms the treatment is entirely surgical and operation should be immediate, as delay until compression develops may result in rupture into the ventricle and death.

There are two methods of approach and evacuation of a temporosphenoidal lobe abscess:

1. From the surface of the skull.
2. Through the mastoid wound.

In abscesses, the result of direct extension, the latter method affords by far the larger proportion of recorded cases of recovery. Gravity drainage is favored and while not operating in a clean field, nature has already walled off the subarachnoid space rendering danger from it negligible. In a certain number of cases a fistulous tract will be found connecting the defect in the tympanum with the abscess and that is the logical direction along which to institute drainage. In other cases without a fistulous tract or stalk there may be present, signs of erosion of the tegmen, the dura may be adherent or if not, may show discoloration, granulations, lack of pulsation or bulging. If the patient is not in extremis, Sharpe(8) advocates doing the operation in two stages:

1. Removal of bone, small opening in the dura and prick the arachnoid with a needle.

2. 24 to 48 hours later complete the cortical exploratory puncture. If the abscess is found needle is retained in place and drain introduced. Failure to find the abscess may be due to a number of reasons. In chronic extension abscesses with capsule a fairly blunt needle may push the capsule ahead of it instead of penerating the capsule. Another cause of failure is the use of a needle of two small a lumen so that the thick pus usually found in chronic abscesses fails to pass through it.

The operation from the surface of the skull is safer and more surgical where unmistakable signs of an abscess adjacent to the exposed dura are not present, but the severity of the symptoms necessitate an exploratory operation. It is the method of choice in all abscesses which result from metastatic infection. The procedure consists in making an osteoplasic flap large enough to admit of complete inspection and exploration of the localized cerebral suppuration without involving the middle ear and mastoid and if the abscess is not found complete the aseptic closure of the dura and replacement of the bone.

The steps of the procedure are:

1. Osteoplastic flap.
2. Incision of dura over wide area.
3. Elevation of the brain.
4. Inspection:

a. Anteriorly—region of second temporospenoidal convolution and tegmen antri and tympani,

b. Posteriorly—region of tentorium cerebelli and under surface occipital lobe.

5. Protection of pia arachnoid with cotton pledgets wrung out of hot normal saline solution.

6. Exploration:

a. Instrument, soft rubber catheter fitted with stylet or Cushing's searcher.

b. Site (1) third temporal convolution. (2) If not found above search in other directions.

c. Searcher inserted in straight line to depth of 2½ to 3 cm.

If abscess is found procedure varies as to whether abscess is acute or chronic.

7. Evacuation:

a. In acute abscesses evidenced by no limiting membrane and the finding of thin fluid pus. The searcher having entered the abscess it is retained in place, drainage of the pus occurring through and around it. The abscess cavity is left severely alone aiming at the minimum of trauma.

b. In chronic abscesses presenting a capsule and thick pus. The searcher having partially evacuated the abscess a rubber tube drain of good size caliber or an encephaloscope is threaded over it into the abscess. Through these the cavity may be sponged out or irrigated with normal saline solution.

8. Closure: In both acute and chronic cases the brain is covered with dura as completely as possible except for the small area which carries drainage.

King(9) of New York observed that all previously described operative treatments for brain abscess were based upon:

1. Drainage of the abscess.

2. Prevention of extension of meningeal infection.

3. Prevention of hernia cerebri.

He noted clinically and at post mortem some of the mishaps of the drainage method:

1. Occasional formation of a pocket of pus in an abscess cavity.

2. Collapse of the abscess cavity wall with consequent loss of the abscess.

3. In attempting to reinsert drains the abscess was occasionally missed and on post mortem they were found in the brain substance outside the abscess cavity. In an effort to obviate these difficulties he developed a treatment for brain abscess based upon unroofing and temporary herniation of the abscess cavity. Briefly he advised:

a. "Creation of a rather large cranial defect directly over the abscess cavity.

b. "Complete unroofing of the cavity.

c. "Complete herniation or eversion of the cavity.

d. "Dakinization of the area throughout treatment.

e. "Prevention of trauma and early compression of the hernia cerebri.

f. "Recession of the hernia.

g. "Adhesive plaster strapping.

h. "Epithelization."

His observations are based on three cases operated successfully.

The operation for cerebellar abscess embodies much the same principles described for the treatment of temporosphenoidal lobe abscess. Where the presence of an abscess is already established by the bone pathology and that of the dura approach may be had through the area anterior to the sinus because protective barriers have been developed. However, if the location of the abscess is in doubt exposure of the cerebellum is accomplished by going through the clean area posterior to the sinus.

SUMMARY

1. Early diagnosis is necessary if we are to reduce the present high mortality.

2. Beware of one or two localizing symptoms present in a case of chronic discharging ear.

3. A thorough knowledge of the regional anatomy particularly that of the venous sinuses of the brain will improve our results.

4. Operative procedures on otitic brain abscess should be based upon:

a. An attempt to differentiate between acute and chronic abscess and the plan of operative attack shifted accordingly.

b. Due regard for the sub arachnoid space by evacuating the abscess whenever possible through the barriers erected by nature.

c. The minimum trauma to the brain.

d. Accurate hemostasis to prevent secondary compression from accumulated blood in the subarachnoid space.

Case: Tempero-Sphenoidal Abscess.

W. H., boy aged ten.

Past history: Has had measles, whooping cough and pneumonia. In 1924 was run over by an automobile, the wheel passing over left side of head, shoulder and knee. No definite history of basal skull fracture could be elicited. Three months after the accident, headaches. Left ear discharged some about that time and there have been recurrences of the aural discharge at times ever since.

Present illness: About February 4th began having a head cold. Left ear ached. Seen at office, February 12th, 1927. Temp. 100, pulse 90, resp. 18. Left membrana tympani bulging, some sagging postero superior meatal wall, some tenderness over mastoid antrum. Myringotomy, free drainage. Boric acid irrigation and phenol and glycerine drops. Heart normal. Some cough but no abnormal lung findings. February 14th, temperature 100.8, pulse 90, resp. 18. Leucocyte count 11700; polymorphonuclears 79%, large lymphocytes 11%, small lymphocytes 8%, eosinophiles 2%. Less earache, considerable debris in external auditory meatus. Tender over mastoid antrum. February 18th seen at home by Dr. George E. Lewis. Patient in collapse. There was an apparent aphasia. Convulsions on the way to St. Elizabeth's Hospital. There examination showed patient comatose, cyanotic, pupils dilated and equal, pulse thready and uncountable. Emesis.

Fig. I. Front and side view of patient subject to case report.

Operation February 18, 1927, 10 a. m. Operator, Dr. Earl B. Brooks, assistant Dr. George E. Lewis. Anaesthetic nitrous oxide and oxygen. Simple mastoidectomy left. Inner wall of mastoid necrotic, lateral sinus in region of knee covered with granulations. In endeavoring to uncover the sinus back to healthy dura, the sinus was opened at the knee with free bleeding, packed with iodoform gauze strips. A button of bone 3-4 to 1 inch in diameter, above and behind mastoid antrum removed. The dura was normal but bulging. An incision ¼ in. long was made in the dura and a small wick of iodoform tape was inserted. Two strips of tape down to the antrum, making four strips all together. Wound closed.

At noon the patient was restless and cried out, able to phonate.

Feb. 19, 1927, patient rational, talking, no rigidity of neck, general condition satisfactory. Urine acid, no albumen, no sugar, no acetone, no blood, few epithelial cells. W. B. C. 15000. Polys. 82%, large lymph. 10%, small lmphs. 8%.

Feb. 20, 1927. Mentally clear, no cranial nerve involvement, complains of headache, eye grounds normal. Asks, "When can I go home?" There was a slight lisp in his speech.

Feb. 21, 1927. First dressing. Two strips of iodoform tape removed. One reinserted. Drainage mostly blood. Thick purulent discharge from auditory meatus. General condition satisfactory.

Feb. 22, 1927. Dressing. All tapes removed from wound including that from region lateral sinus and from incision in dura. No bleeding. Two strips reinserted. Free drainage from external auditory meatus, not much from the wound. Mentally clear, complains of headache.

Feb. 23, 1927. Dressing, more pus drainage from post auricular wound. Headache.

Feb. 24, 1927. 3/15 a. m., six days after initial operation, convulsions, contraction right arm and leg. Spontaneous horizontal nystagmus, slow component to right. Pulse uncountable. Operation: Anaesthetic nitrous oxide and oxygen. Cleaned out wound making sure of through and through drainage external meatus to post auricular wound. Sinus uncovered back to healthy dura. Brain bulging into defect made at previous operation. Rather large caliber needle inserted through previous incision in dura. At a depth of ¾ of an inch, thick foul smelling pus was obtained. Leaving needle in place a ¼ in. fenestrated rubber tube drain was inserted to a depth of 1½ inches. Incident to this procedure 2-4 drams of thick pus were evacuated. Two strips of iodoform tape down to antrum and sinus. Wound closed. 6 p. m., rational, slight swelling left optic disc.

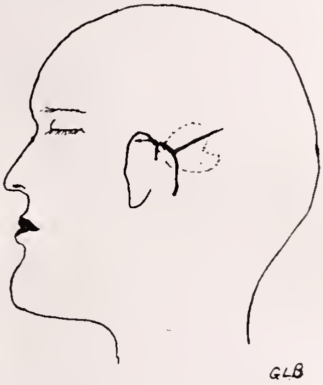

Fig. II. Diagramatic sketch. 1. Solid lines show incision in soft parts. 2. Dotted lines the bone defect in our case.

Feb. 25, 1927. Rational, languid, some headache, pulse full and bounding.

Feb. 27, 1927. Dressing. There was considerable drainage from the abscess cavity. Retaining rubber tube drain in place, the strip of tape along side of it was removed. Considerable drainage from the external meatus.

Feb. 28, 1927. Cavity draining, eye grounds normal. General condition satisfactory. W. B. C. 19400. We interpreted the continuance of the leucocytosis as absorption incident to the protective meningeal reaction at point of drainage of abscess.

March 3, 1927. Granulations in the meatus cauterized. Urine 1019, neutral, no albumen, no sugar, no blood, few epithelial cells.

March 5, 1927. Rubber tube drain extruded from wound. R. B. C. 4, 250,000, W. B. C. 15400, Hgb. 80%.

March 8, 1927. Discharged from hospital convalescent.

April 8, 1927. Ear dry. Only small scab on post auricular wound.

Follow up note: Vision 15/12 either eye, fields normal.

October 6, 1927. Boy struck him on left side of head on way from school; brought to office with report of bleeding from left ear which proved to be only cerumen.

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DIABETES MELLITUS IN INFANCY AND CHILDHOOD*

Report of Case at Twelve Months of Age Successfully Treated With Insulin.

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The incidence of diabetes in children has been estimated(10) at about 6-8% of all cases. A survey of the literature to 1917 showed but 1000 cases reported, with a report of only 200 cases under 5 years of age up to 1913. Two writers(2) on the subject state that 4-7% of their cases fall in the first decade of life but the disease in infants under 2 years of age is extremely rare(5). Schippers(3) reports a case in an infant of 8 months with a fatal termination after 14 months' treatment. DeLange(4) also reports a case at the age of 8 months which died at the age of 26 months. Wood(5) reports the successful treatment of a child at 16 months of age and cites another case at 15 months also successfully treated. The incidence in boys and girls seems to be about equal(2).

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*Read before the Ninth Councilor District Medical Society, Grand Island, October, 1927.

Among the etiological factors heredity is given as the most important(6). Obesity as a factor in children is questionable(2) as it is shown to be rare in children before the onset of the disease(7).

The symptoms of diabetes mellitus in children are identical with those in adults(7). Because of the many types and causes of glycosuria in children(8), it is unreliable to depend upon this finding alone. The absolute diagnosis is made from the finding of the blood-sugar definitely elevated above normal limits.

The pathology in diabetes is still quite obscure. It is in children that we find the pure cases of diabetes without other complicating factors. A report by Warren(9) on the pathological findings in children of 2.2 to 2.7 years of age at the onset with uncomplicated diabetes, gives very little positive findings. There was not sufficient reduction in the insular tissue to account for the disturbed metabolism. There were no definite pathological changes in either the Islands or the acinous tissue. So far as is known, the true pathology appears to be of a metabolic nature.

The absence of definite pathological findings is of prognostic value for it leads to the hope that irreversible changes in the pancreas may be avoided(9). The prognosis of the diabetic child cannot be given with certainty but the outlook grows brighter with the advent of insulin and improved methods of treatment. As Joslin(10) points out, the hope of diabetic child is to keep it alive for he cites definite proof of pancreatic regeneration and of 365 cases treated by him over a period of 28 years, 200 are alive today.

Growth and development in the diabetic child treated with insulin are quite normal. In a series(11) of 34 children treated with insulin over an average period of 18 months, the gain in weight exceeded that of a normal child for the same period of time, while the increase in height, which is hard to measure, seemed to be a little less. But under insulin treatment it has been observed(12) that there is no gain in height until the child has become normal in weight for height. If a child can be carried successfully through the first year of the disease it is said(11) to be past the danger zone, as regeneration of the Islands takes place more rapidly in the subsequent years than in the earlier years of treatment.

In the treatment of diabetes, two main factors must be considered, (1) a diet adequate for nutrition and growth and (2) the proper utilization of this diet. Even with the use of insulin a properly balanced diet remains of greatest importance but insulin overcomes any need for under nutrition(13).

In the calculation of diet, consideration must be given to the proper protein requirement for growth together with properly balanced amounts of carbohydrate and fat to give with the protein sufficient energy in calories and at the same time a safe fatty acid-glucose ratio. The caloric requirement is the same as for the normal child. The protein requirement is also the same as for the normal child but it is possible(14) and often advisable in diabetic children to feed diets much lower in protein. Good growth has been reported on as low as .8 gram of protein per kilo of body weight, but it is not considered advisable(15) to go below one gram per kilo; infants requiring more in proportion. The proportional amounts of carbohydrate and fat added to the protein should give a fatty acid-glucose ratio of not greater than 1.5 to 1 because of the danger of ketosis, but the higher this ratio can be kept, the less carbohydrate will have to be utilized. It has been worked out(15) that a safe ketogenic-antiketogenic ratio can be maintained by giving protein, carbohydrate and fat in the proportion of 7:9:21.

In infants and children difficulty is met in finding an adequate diet with the properly proportioned constituents. The diet must be fitted to the child and not the child to the diet. Milk must form the basis of the diet for younger children but is a very poor diabetic food. Methods(8) have been used to reduce the sugar content of milk by precipitating the casein and discarding the whey, but does not seem to be generally adopted.

About 75% of children with diabetes are unable to progress on diet alone(16). The generally accepted method for figuring insulin dosage is to give 1 unit of insulin for each 1.5 gms. of sugar which appears in the urine in 24 hours with the patient on an adequate diet. This must be varied with changes in blood sugar and glycosuria.

With a very high blood sugar and an excessive glycosuria a short starvation period and insulin may be used to bring the blood sugar to normal. Assuming two-thirds of the body weight to be fluids with the same glucose concentration as the blood, it is easy to calculate(8) the amount of insulin needed to bring the blood sugar to normal if the original blood sugar is known. Prolonged starvation is not advisable because of its tendency to produce acidosis. Acidosis and coma are treated by a relatively high carbohydrate diet with sufficient insulin to utilize it, with an additional amount if a reduction in the blood sugar is desired. It is not advisable to attempt to reduce the blood sugar too rapidly because of the danger of hypoglycemia. So long as glucose is being metabolized by insulin, the ketosis is being combated, for it is the ketone bodies produced by the improper combustion of fat that causes this condition and not the excess of glucose in the tissues(13). Fluids should be given very freely but alkalies are of doubtful value and often advised against(10).

The use of insulin for the control of diabetes in infants meets with difficulty in the way of arriving at a satisfactory dosage. Great variation will occur in the blood sugar and glycosuria of an infant in 24 hours. Wood(5) attributes this sudden variation to the lability of the metabolic processes. The size of the individual is no doubt also a factor, for it is at times impossible to establish a dosage which will neither result in hypoglycemia nor permit a slight glycosuria. In all reported cases, the authors have permitted a small amount of sugar to be present in the urine as an alternative to slight hypoglycemic reactions.

Hypoglycemia is a fairly common and at times seemingly unavoidable symptom complex in infants receiving insulin. It results when the blood sugar is reduced too suddenly or too slow. The reaction begins when it reaches a level between .08% and .07%(13).

In some cases it may appear at a point as high as .09% if the reduction has been too rapid. The symptoms are the same as in adults but must be detected by objective signs. Those most manifest are hunger, weakness as evidenced by limpness and dizziness, pallor, cold sweats, convulsions and coma. These symptoms are so evident that the mother is able to detect them at the onset of a reaction. The treatment consists of giving an easily assimilated form of carbohydrate; orange juice being most commonly used. If the patient is comatose, it may be given per rectal tube or nasal tube or intravenous glucose may be resorted to. A few minims of adrenalin will often elevate the blood sugar sufficiently to restore consciousness so that the patient may swallow.

Because of the rare incidence of diabetes in infants at one year of age I take the liberty to report a single case.

A male infant, aged 12 months, was first seen Sept. 21, 1926, because of fretfulness and recent loss of weight. Symptoms of extreme hunger and thirst together with a marked polyuria were also elicited. The child had appeared quite well and was gaining rapidly until about one week prior to this time when the above symptoms developed quite suddenly. Its diet since seven weeks of age had consisted of Eagle Brand condensed milk with the recent addition of potato, cereal and fruits.

Family history shows the child's paternal grandmother to be suffering with diabetic gangrene.

Examination: The child was very fretful and irritable and appeared older than stated age. The skin was dry, pale and showed evidence of dehydration and recent loss of weight. The child weighed 20 pounds and measured 29¾ inches in height. Physical examination was otherwise negative. The urine was loaded with sugar and gave a four plus reaction for diacetic acid.

Progress: Because of the marked glycosuria, the patient was put on a starvation diet for 24 hours with forced fluids. At the end of this time the urine was still loaded with sugar and the child was becoming drowsy and stuporous. There was a distinct acetone odor to the breath. The child was seen at this time in consultation with Dr. Earl Farnsworth of Grand Island. The diagnosis and course of treatment were agreed upon.

Because of the marked glycosuria and ketosis with impending coma, 2 units of insulin were administered. The following morning the child appeared a little brighter. The body was covered with a slight rash probably of anaphylactic origin. The urine was still loaded with sugar and gave a two plus reaction for diacetic acid. Twelve units of insulin were given and a diet consisting of milk 18 oz., cream 6 oz., oatmeal ½ oz., orange juice 3 oz., was ordered to be given in 6 equal feedings; thus supplying 74 gms. of glucose and 62 gms. of fatty acid with a caloric value of 827. Twelve units of insulin were repeated at six p. m. The following day the a. m. urine specimen contained .4% sugar but the p. m. specimen was negative. The child seemed quite normal and alert. The evening dosage was reduced to 8 units. A trace of sugar remained in the urine the next day and two doses of insulin of 12 units each were given. The following night a moderate hypoglycemic reaction resulted from an evening dosage of 10 units at which time the urine had contained but a trace of sugar.

The reaction was combated by giving 2 oz. of orange by mouth. The following evening the dosage was reduced to 7 units but this produced a severe reaction resulting in coma. It was treated by giving 3 oz. of orange by nasal tube. Following this experience an attempt to keep the urine entirely sugar free was abandoned. During the next few days an adjustment was reached in which the urine contained about .3% sugar on 10 to 12 units of insulin per day. An occasional hypoglycemic reaction was encountered at night between 9 and 12. The diacetic and acetone gradually disappeared from the urine.

As the child's activities increased, more food was added to meet the requirement for nutrition and growth. After one month, the diet consisted of milk 14 oz., cream 6 oz., one egg, bacon one slice, vegetable one oz., giving a total composition of carbohydrate 28.5 gms., protein 27 gms. and fat 56 gms. With this diet, 10 to 12 units of insulin per day in two doses were needed to keep .1 to .2% of sugar in the urine; the dosage being varied according to the glycosuria. Because of the apparent sudden changes in the sugar content of the blood and urine caused by sufficient insulin to utilize this diet, the feedings were arranged so that a large portion of the carbohydrate was given twice daily following the injection of insulin.

At the end of the third month the child was becoming quite fat and was requiring more insulin for the same diet. The amount of milk and cream in the diet were reduced with a resulting caloric value of 680. During the next nine months the diet was varied very little with the exception of the addition of more bulk in the form of broths, bran muffins and cellulose bread to satisfy the appetite. Growth and development were quite normal. Dentition, which had been delayed, developed rapidly. Glycosuria gradually cleared from a persistent trace to an occasional trace. The daily insulin dosage was gradually reduced from an average of 11 units to an average of 5½ units per day; this reduction being necessitated by slight hypoglycemic reactions. Attempts to keep the patient consistently sugar free resulted in mild reactions. These the mother learned to combat by giving orange juice and usually resulted in a slight glycosuria. During the eighth month of treatment an aglycosuric period was maintained for ten days. A dose of insulin just short of producing hypoglycemia was sought with the object of resting the pancreas and with the hope of establishing an increased tolerance. A slight increase in tolerance is evidenced by the reduction in the amount of insulin required for the same diet.

The child at the age of two years weighed 25 pounds and measured 33½ inches in height. Difficulty has been encountered in establishing a more adequate diet for a child of this age because of its dislike for vegetables.

Blood sugars were taken on two occasions for the purpose of corroborating diagnosis rather than as a guide to treatment. On one determination with a glycosuria of .2% the blood contained .26% sugar; on another with a negative urine it contained .13%.

During the last few months aglycosuric periods have become more constant and prolonged and hypoglycemic reactions a rarity. The required dosage of insulin has gradually been reduced and growth and development are quite apparent.

SUMMARY

1. Diabetes mellitus is a very rare disease in infancy; its incidence increasing with age.

2. The symptoms of diabetes in children are identical with those in adults.

3. Any definite pathological changes are still undetermined.

4. More time and further study are needed to determine prognosis but reports on results of treatment are encouraging.

5. Treatment consists of an adequate diet, with insulin in a large per cent of cases to aid the pancreas in the utilization of this diet.

6. Insulin medication in infants meets with difficulty because of the liability of the metabolic processes.

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CHILD NUTRITION WORK IN THE LINCOLN PUBLIC SCHOOLS

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The following is an account of the operation of the Emerson method in the city schools of Lincoln, Nebraska. It was undertaken as a part of the general school health program, which also includes the open-window rooms, the pre-enrollment examinations, health instruction in the classrooms, and the high school physical education work. Health training is at least as essential a component of the child's education as arithmetic or grammar.

HISTORY AND PERSONNEL

The work had its inception in 1922 with the visit to Lincoln of Dr. W. R. P. Emerson of Boston. Through the efforts of Dr. Katherine H. K. Wolfe, who was then director of school health, a course of clinics and lectures was organized. It was conducted by Dr. Emerson and attended by physicians, nurses, teachers and social workers. Dr. R. B. Adams and the writer were members of this original class, and are still engaged in the work. Dr. E. W. Hancock has been in the work for the past two years. Other physicians took part for a short time only.

Training classes for undernourished children were organized the following year, and in this pioneer work, much credit is due to Dr. Wolfe for her energy and executive ability.

Miss Mae Chamberlain, whose official title is "Nutrition Worker", is the keystone of the entire system of child nutrition work in Lincoln.

She has been with the work from its beginning here. Her preparatory training has been that of a nurse, teacher and social worker, with special work in child nutrition. The duties of her position are: To select children for the classes, to keep the records, attend to the details of weighing, charting, and diet calculation, to visit children's homes, to confer with teachers and principals, and to keep the physicians on their jobs. During the early years of the work in Lincoln, the physicians were inexperienced, and all admitted that their chief value was to lend a professional air to the classroom under guidance and inspiration from Miss Chamberlain. Some of us have now been in the work for five years, and feel that our experience has gained us a valuable conception of the principles of child nutrition.

Mr. Harvey H. Long, Director of Physical Education, Mr. M. C. Leffler, Superintendent of Schools, and the principals of the schools in which the classes were held, have all been keenly interested. The fact that two members of the Board of Education are progressive physicians has done a great deal to smooth the way for this work. Through the efforts of all these people "higher up" the nutrition work has achieved a degree of success that would not otherwise have been possible.

ORGANIZATION

Classes have been held during the past four years in six of the schools, at the rate of four classes per year, and five during the past year. That is all that the present force is able to handle efficiently. The size of the classes is typified by figures from the year 1926-7, when the average number of children beginning a class was 17; the lowest number 12; and the largest 25.

The selection of the children is made on the basis of the teachers' reports on heights and weights. With but few exceptions, the leaders in the national child-health movement consider the height-weight relationship a safe practical guide for the state of nutrition; and that is being followed in Lincoln. However, in all of the class children, numerous other signs of undernutrition were found to exist, faulty posture, flabby muscles, poor teeth, frequent colds, slow progress in school, "nervousness" and emotional instability.

At the outset, a careful history is taken on each child, and a complete physical examination is made of the child stripped; the examination, however, does not include urinalysis or blood counts. Children without specific physical defects were considered free to gain; those with minor correctible defects were also included in the nutrition class. Children with major physical defects were not admitted, as they cannot be handled by the methods of the nutrition class; as many of them as possible are being handled in the open-window rooms.

The interest of the parents is sought at the outset, for without their close cooperation, results are quite impossible. The mother or other person caring for the child, must be present at the meetings of the class. A chart is begun for each child, on which the weight-curve is kept; the weight being plotted as ordinates, and the time in weeks as abscissae, under a guide line representing the child's standard weight and expected gain. Children and parents receive printed instructions, supplemented by oral explanations.

The classes meet once a week, some from 9 to 10 a. m., and others from 1:30 to 2:30 p. m. During the same period, health work is being taught in other classes in the building, so that the nutrition class child is not compelled to miss essential studies. During the first half hour the nutrition worker weighs the children, checks over a two-day list of diet from the past week, measured on a calory basis, and completes the charts. The physician and parents arrive at the middle of the period. The doctor takes each child individually, and in the presence of the rest of the class, analyzes reasons for good progress and reasons for failure to make progress, in order that the rest of the class may also benefit from each child's experience. He endeavors to supply sympathetic guidance and inspiration to the children, as well as technical help. It is his especial effort to secure understanding and cooperation from the children, rather than blind obedience.

The child that has made the best gain for the week receives a gold star on its chart. All receive stars giving credit for requirements fulfilled as follows: Blue star for having taken all the mid-forenoon and mid-afternoon rests; red star for all the daytime rests; green star for parent present.

The charts graphically recording the child's progress are hung in front of the class, so that each member's progress is readily seen at a glance. The weight curve tells the child in simple, powerful terms just how well he is doing; while notations on the chart correlate his progress with various influences, such as colds, failure to rest, correction of defects, dietary errors, etc. Nutrition work is 75% pedagogy, and the charts in front of the class are a vivid means of stimulating the child's thought and efforts.

EXPLANATION OF THE CHARTS

Vertical distances indicate weight in pounds.

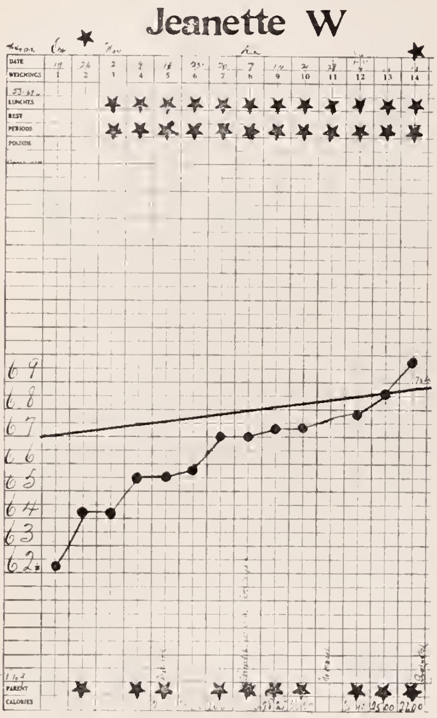
Horizontal distances indicate time in weeks.

The straight diagonal line indicates the normal weight and normal expected gain in weight of a child of the height given.

The upper line of stars, immediately below the name, indicates the occasions on which the child had the greatest gain of the class.

The upper of the double line of stars indicates mid-morning and mid-afternoon lunches taken; the lower line indicates mid-morning and mid-afternoon rests taken.

The line of stars at the bottom of the chart indicates the attendance at class by a parent.



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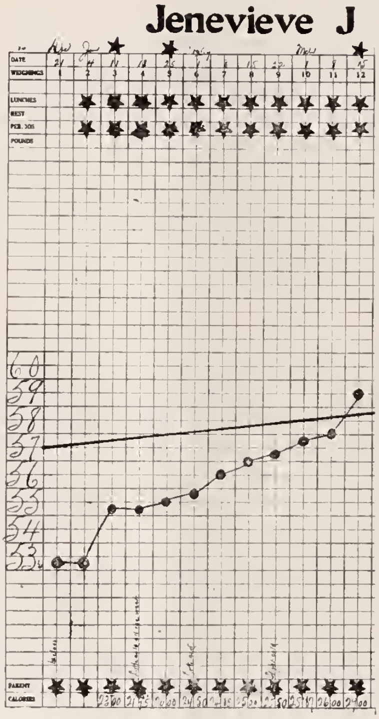

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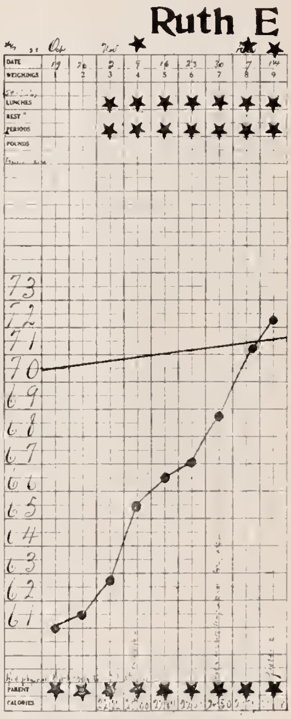

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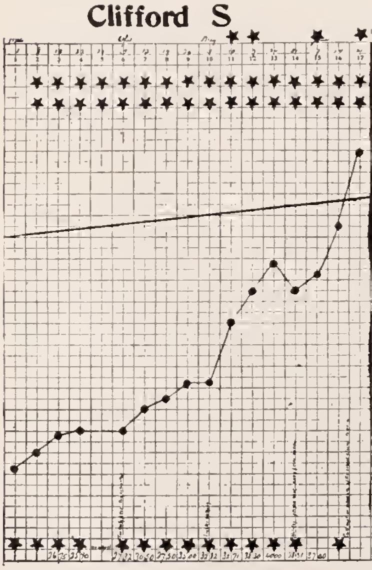

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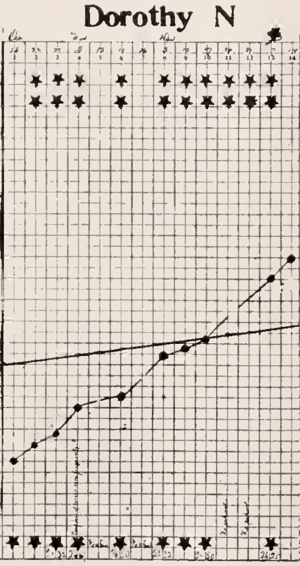

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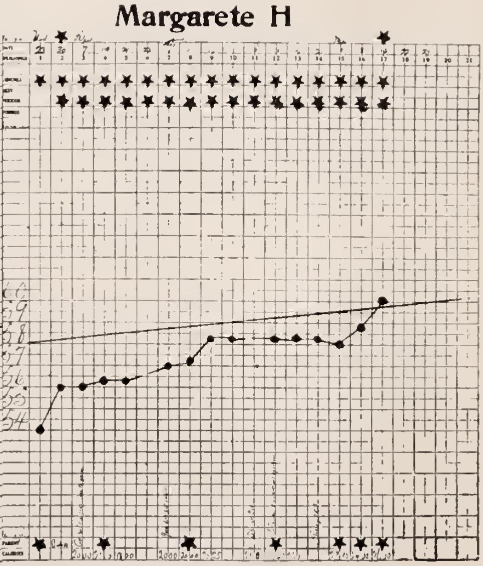

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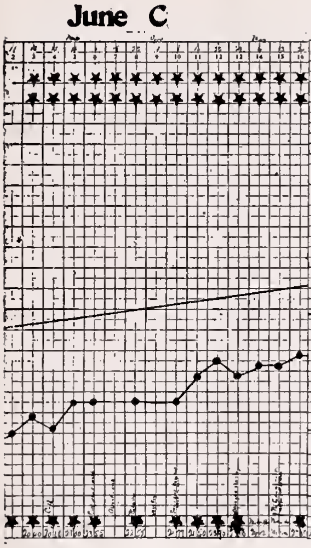
1 and 2. Gains shown by pure "bad habit" cases. The correction of eating and exertion habits brought them rapidly into the normal zone.

3. Exceptionally rapid gain.

4 and 5. Gains of average rapidity, but reaching high above the average of weight-for-height. This suggests that when we know more about this subject, and have thoroughly established correct living habits our eight-for-height standards may have to be raised.



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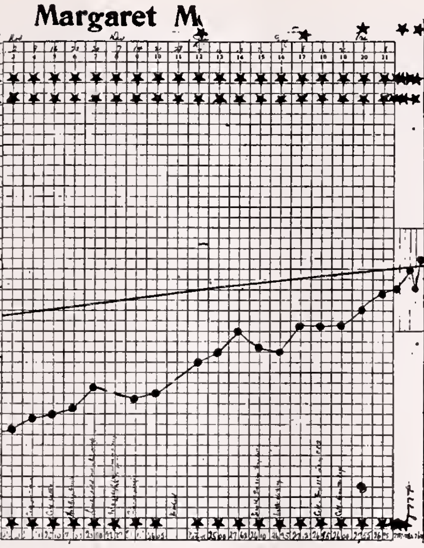

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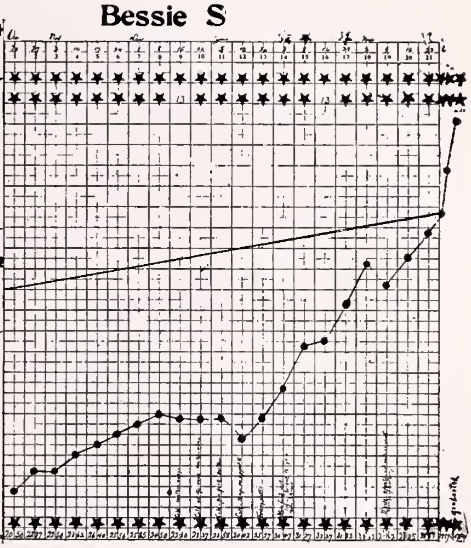

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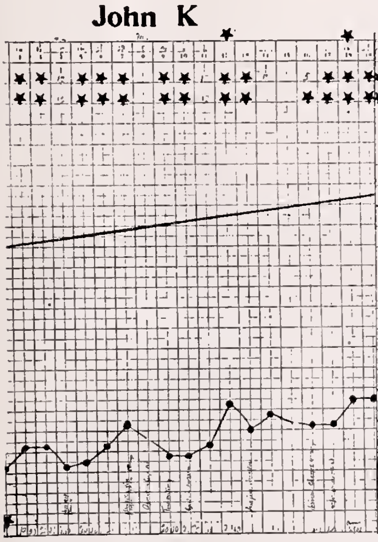

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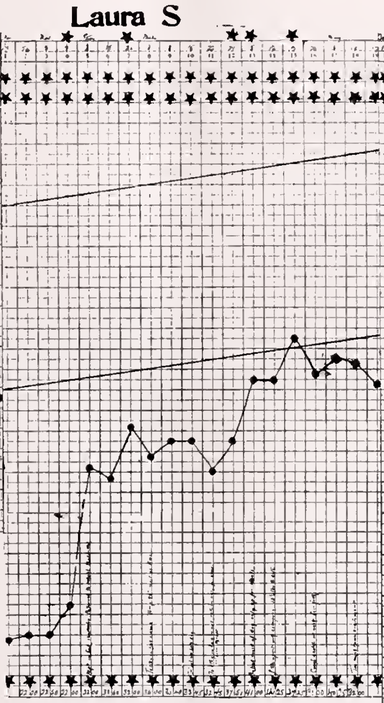

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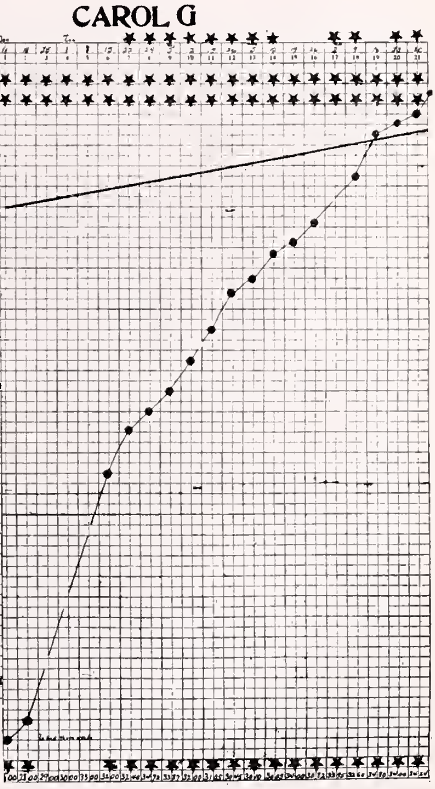

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6. Lack of home control. The child has no mother, and is being taken care of by an aunt who has no interest in sound children.

7 and 8. Slow progress due to infected tonsils.

9. Up to the time indicated by the "X" this child failed to grasp the idea and purpose of the class. At this point she suddenly woke up; and without any change in any of the other conditions, she improved rapidly.

10. The absence of stars in the lowest row indicates the failure of parents to attend the class and accounts for the failure to gain.

11. A case with a cardiac lesion and poor home surroundings. The increase in the height of the child during the period shown on the chart demanded an increase in weight shown by the distance between the two diagonal lines. She reached the zone as it was figured at the beginning of the class, but by that time her height had increased, and she was still very much underweight.

12. Remarkable gain of an incipient tuberculosis fortunately caught at a stage where correct resting and eating habits turned the tide.

METHODS

On the history side of the child's preliminary examination, made for the purpose of ascertaining the cause of its malnourished condition, careful attention is paid to home conditions and habits on the one hand, and the school program on the other. For instance, the kind and amount of food consumed, its value as calories, as vitamin, as protein, and as bulk, its preparation and the conditions under which it is eaten; the amount of candy, coffee, condiments, and other unsuitable food factors, are determined. The amount of relaxed rest as affected by late hours, movies, strenuous play, parties, lessons in music or dancing; the keeping of windows open at night; cleanliness, parental control, and similar factors are investigated. In school, the amount of work is cut down if the program is relatively too heavy for the child; no home-work is permitted, and no after-school hours or extra-curricular activities are allowed.

By means of printed instructions and by direct teaching of the children and their parents in the class by the nutrition worker and the physician, emphasis is laid on the correction of the various faulty habits found. A diet is planned which lays stress on the kind of food as well as on its caloric value; the proper growth-proteins, vitamins, residue, and avoidance of toxic components or unnnatural stimuli, are stressed. A mid-forenoon lunch is provided in school, followed by twenty minutes of supervised rest. A lunch at home immediately after school followed by a similar rest, is directed. An eight o'clock bedtime hour is the rule, and a seven o'clock rising hour in the morning. Strict regularity in all matters is considered important.

During each class period there is a brief period of instruction for the children in the general principles of nutrition, with questions back and forth between them and the physician and the nutrition worker. After the children have left the class, a brief period of instruction for the mothers is held.

The effort is made to have all minor physical defects corrected; because it has been repeatedly found that failure to make progress in nutrition is directly due to the existence of such a defect; and its correction is promptly followed by a return to normal. The most frequent defects responsible for undernutrition as found in Lincoln, have been the habit defects of overfatigue and incorrect eating. The most frequent physical defects have been infected tonsils, respiratory diseases, defective teeth, and defective vision, the order indicating the relative frequency. Last year (1926-7), in a total of 80 children enrolled in the nutrition classes, a total of 677 physical defects was found, or an average of 8.4 defects per child.

When a child had gained weight so that its graph reached into the normal zone, that child received a neatly designed, properly signed diploma, duly framed, and was "graduated" in front of the rest of the class, with an appropriate talk for the occasion by the physician.

Charts are appended with explanatory data to illustrate the principles involved. These charts were selected at random, and with the exception of the two extremes in gain and failure, are no different from all the others that are on file.

Results obtained may also be illustrated by the following figures: The year 1925-1926 may be selected as a typical year. Reports for that year show the following:

Total number enrolled	86
Number showing improvement	83 or 96%
Number graduating	18 or 21%

For 1926-1927 the figures are:

Total number enrolled	80
Number showing improvement	78 or 97%
Number graduating	28 or 35%

The study of the individual child during its improvement is much more impressive than any curves or statistics can possibly be. To see one of these youngsters gaining color, filling out hollows in cheeks and ribs, exchanging the wizened, puny expression for a robust, happy one, standing up straight, and improving in its work and play, is an inspiration; and in itself repays the workers for all the effort they put into it.

Figures are not available in Lincoln on how well the gains are kept by the graduates after they have left the class. Statistics gathered in other places where the method is in use (Kaiser, J. Dis. Child., 31, 386), indicate that the weight of graduates does not remain as steady as that of control groups of underweights; but at the end of a year the graduates are still ahead. On the other hand I have seen individual children with whom I worked hard in a class four years ago and who failed to gain at that time, put on weight and reach the normal zone since then as a result of the principles taught them in the class, aided by further health instruction in the regular curriculum,

The purpose of the nutrition course is not so much to fatten up a child, as to lay a foundation for a training in correct living habits. The success of the course is measured less by the number of pounds the child gains in twenty-one, or forty-two weeks, than by the ability that the child requires to gain and maintain weight and health during the rest of its life. I have seen both kinds of children: The one who makes a prize gain in the class and loses it during the following year, and the one whose progress in the class is discouraging, but who works out its own salvation in later years as a result of stimulus and training received in the class. The desire is to achieve good results in the class and keep them, but strong emphasis is laid on the training value of the work.

SUMMARY

The chief impressions that four years of this work have left on the writer are as follows:

1. Though there are still a few who deny that undernutrition is equivalent to defective health, nevertheless underweight runs so nearby parallel with defects in structure and function that it is certainly a powerful warning of danger.

2. The chief causes of undernutrition are incorrect living habits, and physical defects.

3. Intensive training, aided by the active correction of defects builds up the physical condition of malnourished children. About one-third are brought into the normal zone, and almost all are benefited to some extent. The benefit is obvious in the child's appearance and schoolwork.

4. The education of parents for the purpose of securing their cooperation, is indispensable to progress.

5. The class work confers upon the child a training that will be effective throughout the rest of its life, and the results of which will be apparent in the next generation.

THE ANUS (APPLIED ANATOMY)

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The anal canal extends upward and forward from the anal orifice to where it pierces the levator ani muscle and becomes rectum, a distance of one to one and a half inches. The direction of the rectum is upward and backward, forming almost a right angle with the anal canal.

There are three muscles that make up this muscular canal, namely, the levator ani, the internal sphincter and external sphincter. The levator ani which is the sling-like support of the pelvis, supports the last inch or so of the rectum in front of the coccyx and compresses the upper end of the anal canal. The internal sphincter which is merely a thickening of the circular muscle fibers begins at about the levator ani level and extends downward for about one-half to one inch. The external sphincter is a muscular entity which is more external and lower down and composed of fibers that extend from the tip of the coccyx to the central tendon of the perineum. The fibers of the two sides, decussating before and behind the canal, function together as a sphincter. The internal sphincter is supplied by the sympathetic. It is not under voluntary control and takes no part in the control of defecation. The external sphincter is under voluntary control and is supplied by the inferior hemorrhoidal and deep perineal branches of the pudendals and branches of the fourth sacral nerves. In structure the external sphincter appears to continue upward and meet the levator ani. The levator ani also has a true sphincteric action. It is supplied by fibers of the third and fourth sacrals and branches of the pudendal nerves. It is this muscle that gives some voluntary control of defection in injury to the external sphincter.

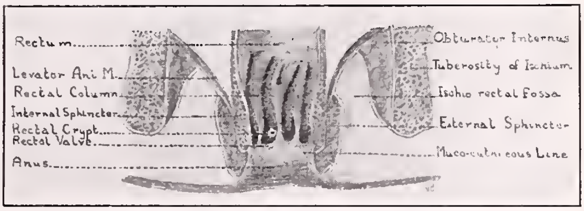

Fig. 1. Shows relation of levator ani, external sphincter and internal sphincter. The columns of Morgagni descend almost to the muco-cutaneous junction. Small papilla are present on the valves that guard the crypts.

The corrugator cutis ani is superficial unstripped muscle bundles radiating from the anal orifice of the anal canal.

The external sphincter is one of the most consequential muscles of the body. Its paralysis or destruction leads to incontinence and its state of contraction not only has a part in the formation of hemorrhoids by venous compression but prevents healing of fistulae, fissures and ulcers by its restless state. In the above cases an important procedure is to put the sphincter to rest by right angle division of its fibers.

The lower one-third of the rectum and the anus have no peritoneal contact. The peritoneal reflexion is about one inch above the prostate or about three inches from the anal orifice. In the female, this reflexion is at the upper one-fifth of the posterior vaginal wall. These reflexions are important in operations and injuries of the rectum and anus.

The lower half of the anal canal is lined by modified skin due to the puckering action of the muscles. Above it is lined by modified mucous membrane. The muco-cutaneous line (white line of Hilton) is the junction of these surfaces. Just above Hilton's line there are from five to ten vertical folds of mucous membrane called the rectal columns (columns of Morgagni). These columns are in the lower part of the rectum and terminate in the upper anal canal. At the lower end of each groove between the columns, small valves with papilla are present which project inward and upward forming small crypts. Usually in each column there is an artery and vein. The function of the anal crypts and valves have never been known but are fertile fields for focal infections. They frequently become inflammed and painful and may give rise to a stubborn pruritis due to the irritating discharge. The rectum above may also give rise to an excessive irritating secretion resulting in a stubborn pruritis. Lavage of the ano-rectal canal with a mild antiseptic frequently gives relief in such conditions as it not only treats the local inflammation but removes the irritating discharge.

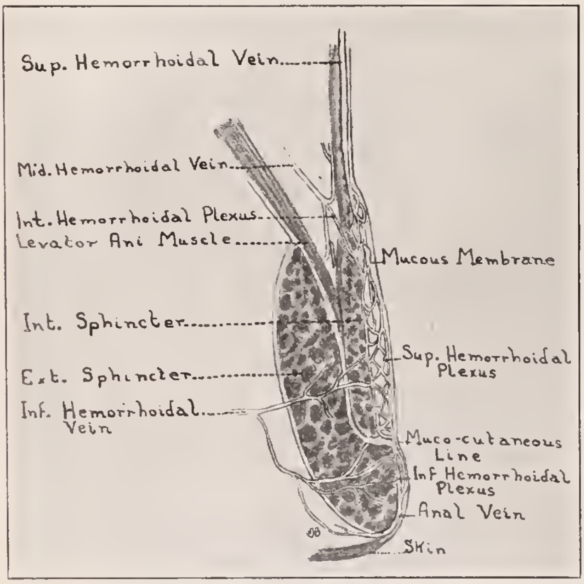

Fig. 2. The superior hemorrhoidal plexus is above the muco-cutaneous junction. The inferior hemorrhoidal plexus is below this junction. The middle hemorrhoidal vein drains a plexus on the outer ano-rectal wall. The anal veins pass just beneath the skin to join the inferior hemorrhoidal veins.

The superior, middle and inferior hemorrhoidal arteries supply the rectum and anus. The superior is the terminal branch of the inferior mesenteric which reaches the rectum through the pelvic mesocolon, divides into two main branches, each of which divides into three or four terminal branches which descend in the rectal columns. These arteries supply the greater part of the mucosa of the rectum and upper anal canal. The inferior hemorrhoidals are branches of the internal pudendals which pierce the ischio-rectal fossa, pierce the levator ani and external sphincter and are mostly distributed to the mucosa of the anal canal. The middle hemorrhoidals are branches of the hypogastric and supply the muscular wall of the greater part of the rectum and anus. These three arterial systems are connected.

The veins are arranged in a somwhat similar pattern. There is a superior hemorrhoidal plexus in the sub-mucosa of the rectum and upper anal canal. The main channels extend upward through the rectal columns, then piercing the muscular wall of the rectum join with veins of the outer rectal wall to form the superior hemorrhoidal veins which reach the portal system through the inferior mesenteric. A group of veins in the lower anal canal below the muco-cutaneous junction constitute the inferior hemorrhoidal plexus. It communicates with the superior plexus above but for the most part its efferents pierce the external sphincter or pass just beneath the skin as the anal veins to join the inferior hemorrhoidal veins. The middle hemorrhoidal veins drain an external hemorrhoidal plexus on the outer wall but has connections with the superior and inferior hemorrhoidal veins. Thus there is not only a communication between the veins and plexuses but also between the portal and systemic systems. The veins are valveless and, therefore, subject to dilation from pressure. External hemorrhoids are dilations of the anal veins or inferior hemorrhoidal plexus below the white line, thus being covered with skin while internal hemorrhoids are from the veins above the muco-cutaneous junction and are covered with mucous membrane. At times a small artery is found with the hemorrhoid. With this morphology it appears that the only remedy for hemorrhoids is a complete dissection of the tumor up to its pedicle and then ligature.

BLOOD VESSEL VISUALIZATION

Experimental work was undertaken by John B. Carnett and Sigmund S. Greenbaum, Philadelphia (*Journal A. M. A.*, Dec. 10, 1927), to determine whether or not visualization of the vessels was possible in the living subject. They found that 6 cc. of iodized oil may be injected into the femoral artery of the average man with perfect safety, and yield good roentgenograms. This is not only an excellent but also a harmless means of vascular exploration, particularly of the vessels of the lower extremity.

THROMBO-ANGIITIS-OBLITERANS*

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Thrombo-angiitis-obliterans is a comparatively rare disease. It is an obliterating inflammatory condition which involves all the coats of the arteries, vena comites and nerves, if there be one accompanying the blood vessels.

It is much more common among men than women. It seems to be more common among the poorer classes of Russian Jews than any other one class of people unless it be the Chinese. Numerous cases have been observed among this latter people and it is said to exist all over China.

Causes: The exact cause of thrombo-angiitis-obliterans, or Berger's disease, is unknown at the present time. Focal infections are thought to play an important factor in causation. According to Phillips and Tunick, of Chicago, tobacco is undoubtedly a causative factor. (If this is true the medical profession should be among the greatest sufferers). After reviewing the literature it seems as if there might be a possibility that it is more prone to develop in those individuals living under poor hygienic conditions and living largely on a starchy diet or engaged in handling starchy foods of the cereals.

It is also of interest to raise the question as to whether or not angina pectoris, abdominal angina, and angina of the coronary arteries of the heart is not a similar condition but affecting different blood vessels.

Symptomatology: Regarding the symptoms of the disease, in its early stages, Berger, who was the first to describe it and by whose name it is also known as "Berger's Disease", has this to say:

"The patient suffering from thrombo-angiitis-obliterans in its earlier stages, may offer no objective evidence or suggestion of the true nature or site of the real lesion.

"Severe, non-localizable, shooting pains, in the calf of the leg, or foot, especially when attempting to walk, possibly tender calf muscles, with or without vaso-motor symptoms, coldness of the foot, with or without obliteration of the pulse in the dorsalis pedis, posterior tibial, or popliteal arteries, may be absolutely all the symptoms.''

A characteristic of the pain, at least later in the disease, is the fact that it is made much worse when the patient assumes the recumbent, or horizontal position. Lying down makes it worse. These patients often sleep sitting in a chair for months and sometimes years. Therefore, posture is one of the chief diagnostic symptoms and Berger lays considerable stress on this point, calling it the *"angle of circulatory sufficiency."*

The normal limb will retain most of its color when raised to a vertical position to the prone body and is, therefore, 180°. If there is defective circulation the red hue of the limb, afflicted with this disease, will only return at a lower angle and perhaps not until it is horizontal or even lower than the horizontal plane. The angle at which circulation returns is, therefore, the "angle of circulatory sufficiency".

With the foot pendent there is a characteristic dark purplish red flush to the skin which blanches, or becomes ischemic, when the foot is raised. This also brings on a severe and unbearable paroxysm of pain. Posture is, therefore, a valuable diagnostic symptom. This purplish red color, may, however, be seen in other conditions, viz: Arterio-sclerosis and diabetic gangrene. The age of the patient in the former, and a urinalysis in the later, should aid materially in the diagnosis. This color is due to an engorgement of the capillaries and is known as *erythromelia.*

Later in the disease the circulatory disturbances will probably lead to gangrene which may be of either the wet or dry variety; the dry variety is the more commonly seen. When gangrene does supervene it must be differentiated from the other forms of gangrene that also attack the extremities, diabetic gangrene, senile gangrene or arterio-sclerosis, and Reynaud's disease.

Diabetic gangrene and senile gangrene should not offer any serious diagnostic problems. Reynaud's disease, however, due to its symptom of becoming ischemic, as does this disease, may present a bewildering set of symptoms and might be mistaken for Berger's disease. If it is borne in mind that Reynaud's disease is not affected by posture; it is more common among women than men; it is usually bilateral, while unilateral is the rule with Berger's disease; and that Reynaud's disease has a distinct tendency to spontaneous healing; while the course of Berger's disease is ever on and on till the victim dies or is relieved by surgery. It is in the early stages of the disease that trouble is apt to arise in making a diagnosis. Pain is the one outstanding symptom in all cases of Berger's disease and it finally becomes so severe as to be unbearable except by large doses of opiates. The doctor who is not looking for this disease is very prone to explain the pain as due to flatfoot, trauma, sprains, rheumatism, etc. Lack of proper growth of the toe-nails is another feature of the disease to be borne in mind. There may be one or more slow healing ulcers on the toes or foot. Pain, therefore, which is really an angina, with any slow healing ulceration, slow growth of the nails, and a possible absence of the pulse in the Dorsalis pedis, posterior tibial, or popliteal, arteries, made worse by posture, should strongly suggest thrombo-angiitis-obliterans. In the later stages of the disease no serious difficulty should be experienced in making a diagnosis.

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*Read before the "Five Counties" Medical Society meeting, Emerson, June 23, 1927.

Treatment: The medical treatment of thrombo-angiitis-obliterans has not been heralded as a "howling success". Hot and cold plunges, alternated, have been advocated. Intravenous injections of sodium citrate solution have been used. Lock's solution, or Ringer's solution, through a duodenal tube have also been used. Typhoid vaccine has been tried.

Phillips and Tunick, in the Journal of A. M. A., May 16th, 1926, gave some very encouraging reports on the use of radio-therapy and x-ray treatment of a series of cases. If their experience can be duplicated and substantiated by others, it will, without doubt, become the accepted routine treatment for this disease. Up to their time, however, surgery offers the only satisfactory relief for these sufferers. Ligation of the femoral vein and an arterio-venous anastamosis has been done but is not usually satisfactory. Peri-arterial sympathectomy has also been advised and tried but is not generally successful. Amputation has been found to be the only universally successful method of treating these cases.

REPORTS OF TWO UNUSUAL ILLNESSES IN THE NEW BORN.

EDEMA OF THE BRAIN. ECLAMPSIA NEONATORUM.

FLOYD CLARKE, M. D., F. A. C. P.,
Omaha, Nebr.

Case No. 1. Baby S. Male, infant, born at term; delivered by Dr. Frank Murphy at St. Joseph's Hospital. Mother healthy—a primipara. Labor was uneventful and not unduly prolonged; no instruments were used. To facilitate delivery an episiotomy was done. There was no trauma to the infant on its passage through the birth canal, nor was there any trauma to the baby's head after delivery. Soon after birth the baby began crying. There was nothing strikingly characteristic about the cry except its constancy. On examination no spasticity was noted; the fontanelle was not bulging. The right hand was drawn upward and inward, suggesting tetany. Food was offered the baby by means of a medicine dropper, swallowing was not difficult, but the baby's constant crying did not cease. Several times during the night after delivery the baby had some slight convulsive twitchings, the eyes deviating to the right; no actual convulsion occurred. A spinal puncture was done and about 3cc of clear fluid obtained. Laboratory examination of the fluid was entirely negative. The baby continued its crying nearly constantly, finally becoming quite cyanotic. Physical examination of the lungs and heart revealed no abnormality. Forty-eight hours after birth the baby expired. Autopsy by Dr. B. C. Russum, St. Joseph's hospital: "Over the tip of the left temporal lobe there is a marked collection of fluid, beneath the leptomeninges. No evidence of any hemorrhage over base of brain. There is some edema of the leptomeninges at the base. There is a patch of consolidation of the lower base of the left lung. It is pink and on cross section contains solid areas; the same is true of the lower lobe of the right lung and dependent portions of the upper lobes." In a personal talk Dr. Russum thought that this bronchopneumonia was a terminal affair and that the edema of the brain was probably the direct cause of death. ANATOMIC DIAGNOSIS: Edema of the leptomeninges, bronchopneumonia of right upper lobe.

There is very little in the literature regarding edema of the brain in infants. Ray Shannon, before the Central States Pediatric society, in 1924, at Minneapolis, reported two cases. One died and one recovered after repeated lumbar punctures. Grulee and Bonar in Appleton's new Clinical Pediatrics mentions the condition under the title "contusio cerebri" and state that it is impossible to differentiate this condition from the cerebral symptoms of intracranial hemorrhage. Von Reuss, in his book, Diseases of the New Born, discusses the condition under the same head, viz., "contusio-cerebri".

The title contusio-cerebri does not seem to me to describe the condition present either in Dr. Shannon's case nor in my own. Contusio-cerebri implies an actual contusion or trauma to the brain. In my own report there was no actual trauma or contusion, merely an edema, the cause of which I do not know. My own impression would be that the prognosis would ordinarily be good, especially if repeated lumbar punctures were done and the intracranial pressure thereby lessened.

It would seem quite necessary for all of us who have much to do with the new born to have this condition in mind and to realize that babies can develop edema of the brain, which becomes manifest in the infant by certain evidences of cerebral irritation.

Case 2. Baby V. B. Female, born three weeks past term at Lord Lister Hospital. The mother, a daughter of Dr. John Simpson of Omaha, was in labor about twenty hours. Albumen appeared in her urine ten days before birth of the baby. Toward the end of her twenty hours of labor pains she began to develop some muscular twitching suggesting the possibility of the development of an eclampsia. Dr. Rudolph Rix was then called, an episiotomy was done, forceps applied and the baby delivered. A great deal of difficulty was experienced in resuscitating the baby. It was blue and would not breathe; however, after considerable effort on the part of Dr. Simpson, normal breathing was established. Approximately six hours after delivery the baby had a convulsion. Subsequent convulsions rapidly occurred and were repeated several times each day for the succeeding six days. The baby also developed a sharp, shrill cry, suggesting cerebral irritation. She was quite cyanotic at times. Cheyne-Stokes respiration occurred and the baby was extremely drowsy, wakening only at intervals with the harsh cry which was usually followed by a convulsion. The baby would not nurse, could not be aroused to take the mother's nipple in her mouth and when fed with a medicine dropper seemed to swallow with difficulty. After the normal meconium stools she had several loose, greenish stools containing mucus. The highest recorded temperature was 100.2, but was usually subnormal.

Physical examination of the baby yielded only negative results. There was no bulging of the fontanelle, nor rigidity of any of the extremities. From the history one would naturally think of a cerebral hemorrhage, but without some spasticity it was difficult to conclude that hemorrhage had occurred. A lumbar puncture was done, yielding a clear fluid with no increase of cells. A specimen of urine was obtained and this was found to contain two plus albumen with hyalin casts. This albumenuria persisted for about six days and with its disappearance the convulsions ceased. The baby recovered and is healthy and well today.

I believe this baby had eclampsia neonatorum. This disease is usually described as occurring in babies born of distinctly eclamptic mothers, although Von Reuss states that Kreuzmann has observed a case of convulsions occurring in an infant whose mother had nephritis during pregnancy, but no convulsions. The literature on the subject is rather vague, the best description will be found in Von Reuss' book. He limits the term "eclampsia neonotorum" to convulsions occurring within the first few days of life, in children born of mothers who have suffered from eclamptic fits during the latter period of pregnancy or after labor.

An interesting fact was noted in this case. As soon as the baby was taken completely from the mother's breast there was a distinct improvement in the baby's condition, indicating the probability of some unknown poison being transferred by means of the mother's milk to the baby.

A brief outline of the treatment given may be of interest; choloral hydrate was given by rectum to control the convulsions; hot packs, free catharsis, and forcing as much as possible the water intake in twenty-four hours.

The baby was fed at first condensed milk with mother's milk, then because of the green stools and mucous this was changed to evaporated milk mixture without the breast milk and finally to a cow's milk formula.

REPORT OF A CASE OF OTOMYCOSIS*

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Stuart, Nebr.

This term is used to describe the condition in which some form of a mould has lodged and developed in the external auditory canal. Several different forms of moulds have been found in specimens taken from the ear. The four most common are: Aspergillus niger, Aspergillus flavus, Aspergillus nidulans and Verticillium graphii. The growth may be merely on the bony meatus or it may spread as a thick growth over the drum membrane. If the growth is confined to the meatus no symptoms are noticed by the patient but if the mycelia invade the membrane lining the bony canal and the skin covering the drum of the ear an acute inflammatory process arises.

I have been unable to learn how relatively frequent otomycosis is present in ear pathology. It is stated, however, that in one-third of the cases found no symptoms are present and the fungus may remain over a long period without noticeable symptoms due to the fact that the growth is on the bony meatus and has not extended into the tissues or over the skin over the drum membrane.

When symptoms do arise the patient experiences more or less discomfort. These vary from intense itching or a feeling of irritation, as of a foreign body in the ear, to moderate or sometimes intense pain. The hearing may be considerably impaired if the canal is occluded.

Early this year Miller of N. Y., reported two cases of otomycosis. The first case had suffered intensely for two weeks and visited several clinics without relief. He was able to abate her symptoms almost immediately by syringing the

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***Read before the Holt County and Eighth Councilor District Medical Society, October 13, 1927.**

growth out with a warm boric acid solution and instilling a 2% solution of salicylic acid in alcohol into the ear. His second case, seen a few months subsequently, was cured by the same treatment.

A few months ago Lewis of Memphis, Tenn., reported three cases, all of whom presented the same clinical picture. The patients complained of itching, a feeling of fulness in the ear and later pain of varying intensity. In all the above cases a dirty grayish mass was found in the canal extending over the membrane of the drum.

This was gently irrigated out and salicylic acid in alcohol instilled. The results in all cases were immediate and permanent.

In the cases reported by Miller he found that oil in some form had been used in the ears prior the arising of annoying symptoms which led him to the conclusion that the oil was responsible for the growth since it has always been taught that fungi develop in oils. In the three cases reported by Lewis he took particular pains to find out if oils had been used by his patients but in none of them had they resorted to it. In our own case the patient had used no oils or medication of any kind as she had had no trouble previously with her ears. Many people resort to the use of oils or glycerine believing them beneficial for most any ear condition particularly itching or pain. Lewis believed that the using of oils in cases where otomycosis is found is a mere coincidence.

CASE REPORT

On August 30, 1927, a housewife, age 35, came to our office complaining of severe pain in the left ear. She further complained that the external auditory canal was partly closed due to an inflammatory mass near its outer margin. A week previously she had had a rather intense itching in the ear for several days and as the itching subsided the ear began to be annoyingly painful and hearing was diminished. The day before coming to the office it was very severe and she felt a swelling at the entrance to the ear canal.

Examination showed a large furuncle at the outer margin of the canal. A thin purulent secretion was present over its top. Due to the closure of the canal it could not be inspected. An incision of the furuncle gave relief. A small warmed phenol-glycerine pack was inserted over the incised area and she was instructed to return the following day. The patient came back as requested but explained that she had really not felt it necessary as the symptoms were quite abated. The swelling was almost entirely gone from the outer ear and there was not enough tenderness to interfere with an inspection of the canal. There was, however, a noticeable sero-purulent secretion from the ear coming from above the incision. A grayish thick mass was seen in the canal extending over the drum. This was irrigated with warm boric acid solution. This mass was about two-thirds the size of the rubber from a lead pencil. The other ear canal contained a similar mass which was easily removed. The patient was delighted to find that her hearing was suddenly more acute and so were we.

Any elation we may have felt changed considerably by the lady's return on September 29, 1927, thirty days later complaining of pain in both ears which was very excruciating. She said that it had commenced two days previously. It was dull at first. There gradually developed a sense of fulness in both ears, interfering considerably with her hearing. The pain increased until it was so unbearable that she was not able to sleep the night before coming to the office. Examination of the left side showed again a large grayish mass covering the lining of the bony wall and the membrana tympani. The right ear also showed a dirty grayish mass lining the canal and covering the drum membrane. In addition a thin purulent secretion covered the floor of the canal on this side and several minute fungi were plainly visible. These arose on filament like stems from the floor of the canal and each was topped with a tiny round black ball. It was unquestionably a fungus growth. The masses were dislodged by irrigation and both were like casts of the drum membrane and inner canal wall. Noticeable excoriations on the lining of the canal remained. The relief from pain when the masses were removed was strikingly immediate. A 2% solution of Salicylic acid in alcohol was instilled in either ear and the same was prescribed for the patient's use at home. There has been no reoccurrence.

NEBRASKA UNIVERSITY HOSPITAL

CLINICO-PATHOLOGICAL CONFERENCE

A. D. DUNN, M. D., Internist, and A. J. MILLER, M. D., Pathologist.
Edited by L. L. Davidson, M. D.

CASE NO. 22165. April 15, 1927.

A white woman, 38 years of age, was helped to the ward, February 26, 1927, complaining of

Pain in the upper abdomen—particularly the right hypochondrium,

Cough on the slightest exertion,

Nausea and vomiting,

Shortness of breath.

She was admitted on the surgical service of Drs. Jonas, Brown and Roeder.

ONSET AND DEVELOPMENT: During the second week of January, 1927, the patient had done a hard day's work and the next morning felt a severe pain in the epigastrium and right hypochondrium. The pain extended "through the body to the right shoulder". It was of a dull constant achy character. She became violently nauseated within two hours. During the first three days of the attack she experienced several chills of a fairly severe character. The nausea subsided gradually but recurred at intervals. She consulted several physicians, all of whom diagnosed the condition as cholecystitis. She had had several clay-colored stools during this period, but no jaundice.

She gradually developed dyspnoea, which appeared on the slightest exertion and which forced her to sit up to sleep. She stated that her feet had never been swollen, although her abdomen had been somewhat distended; but on further question she remembered that recently there had been occasional slight swelling of her feet after being up all day. These symptoms had remained constant and she came to the hospital for operation.

About one week before the onset of the trouble, the patient had several molar teeth crowned. There were no apparent immediate sequelae. The patient usually weighed 105 pounds but had gained 13 pounds during her illness.

PREVIOUS ILLNESSES: In childhood, patient assured us of having had measles, mumps, whooping cough and chicken pox twice. Eleven years ago she was operated upon and one tube and ovary removed. Eight years ago a uterine suspension and appendectomy were performed. The following year she was confined to bed for ten days with influenza. She had otherwise been well until this year.

FAMILY HISTORY: Her father died of apoplexy at 62 years. Her mother was living and well at 74; and there were three brothers living and well. She had one child living at 17 years, two dead, one at three months, one premature. There had followed four or five miscarriages, all induced.

PHYSICAL EXAMINATION: T. 96; P. 100; R. 30. A white woman, looking older than stated age, lay propped up in bed, with a rather rapid labored breathing, and an anxious expression on her face. Dark circles surrounded her eyes. Her color was dusky. Nutrition and development were good. Exertion caused cyanosis.

Head: Hair was soft and fine. Pupils were equal and regular and reacted to light and accommodation. The visual fields were normal. The ears and nose appeared normal. The tongue was coated, there were fillings in the molars. The pharynx was slightly injected. The tonsils were small and scarred.

Neck: The vessels of the neck were enlarged on each side, but were especially prominent on the right and were very tender. They did not pulsate and were not firm. The sternocleidomastoid particularly on the right side was very tender. The thyroid seemed slightly enlarged. No other glands were palpable.

Thorax: The accessory muscles of respiration were being used.

Lungs: Expansion was equal. Fremitus was absent in right base. The right base was flat posteriorly from about the tip of the scapula downward. Over this area whispered and spoken voice were absent. No breath sounds were heard in right base. Moist rales were heard over the left lower lobe. Posteriorly an area of bronchophony and whispered pectoriloquy was heard at level of 2nd-5th dorsal vertebrae extending 4 cm. to either side of midline.

Cardiac: The apex beat was not seen but was felt in the 5th interspace just outside the midclavicular line. The heart was apparently enlarged both to the right and left of the sternum; dullness extended about ½ cm. to right of the sternum. The heart sounds were but faintly heard all over the cardiac area and to the right of the sternum at the level of the 5th and 6th ribs.

Abdomen: The abdomen was rounded, somewhat tense. There was a scar in the midline from a point just below the umbilicus to the symphysis. The epigastric and hypochondriac regions were tender. The tenderness was most marked in the right hypochondrium. No tenderness existed in the lower abdomen. The liver was felt three fingers below the costal margin and was very tender. Liver dullness merged into dullness in right chest. There was shifting dullness in the flanks.

Extremities: Were not remarkable. Reflexes were present and there was no edema.

Back: Dependent edema was demonstrated in the lumbar region.

LABORATORY: The urine examination at entrance showed a specific gravity of 1015, an acid reaction, a 1+ albumen, no sugar, diacetic acid nor acetone, and a few pus cells and epithelial cells microscopically. Daily examination showed the specific gravity to be variable, being as high as 1027. The albumen was infrequently found, never being over a 2+ and usually being absent. The microscopic examination varied but little. The fluid intake was limited to 1000 c.c. but the output was never over 500, being usually around 200.

The blood count at entrance showed a hemoglobin of 85%, a R. B. C. of 5,170,000, W. B. C. 11,600, 80% polymorphonuclears, 17 lymphocytes, 1 basophile and 2 transitionals. The last count on 3/19 recorded the R. B. C. at 6,060,000 and the W. B. C. 7,400. The blood pressure was 124/105. Blood cultures were negative. The Van den Bergh direct was faintly positive, the indirect 0.5 units and the icterus index 6.5.

A vomitus specimen was free from HCl and contained no blood. The feces was negative for macroscopic and microscopic blood.

PROGRESS: The patient was in the hospital 29 days.

Her temperature was usually above normal 98.6 to 102, pulse averaged 80-110, respirations 20 to 35.

The recommending physician had sent the patient in as a "surgical gallbladder" and she was entered on the surgical floor. After the above examination she was transferred to the medical floor under the service of Drs. Anderson and Allen.

An x-ray taken shortly after entrance gave the following report: "The complemental air spaces on both sides show an increased density. The diaphragm is not sharply outlined on either side. Both lungs show some mottling. The apices are clear. Calcified glands appear in both hiluses. The heart is enlarged both to the right and to the left. The left ventricle extends almost to the chest wall. The base of the heart is broad. Some increase in size of the great vessel area is especially noted on the left side. Roentgenograms of the teeth show the upper lateral incisor, left, to have a questional apical shadow."

March 4. An examination by Dr. Anderson revealed a heart displaced more markedly to the left, percussion demonstrating the right border to be to the left of the sternum. The liver was down about 5 cms. Flatness and absence of fremitus were found over an area from the 5th rib down posteriorly. Bronchophony and whispered pectoriloquy over a large area to the left posteriorly over the 2nd-5th dorsal vertebrae were heard. The pulse was irregular and showed marked variation in intensity (about 20 beats lost at the wrist). The blood pressure was unreadable, a few beats coming through at 124 mm. Patient was very cyanotic, grunted with each respiration, veins of neck were very distended.

March 6. Edema had increased markedly, on the left to the level of the ribs, on the right to the lower border of the scapula. Right arm edematous and painful. Right face swollen. The vessels on the right side of the neck became very hard, swollen and nodular. They were tender and did not pulsate. Edema of the right arm increased. Three-quarter edema of the body developed—only the left side of the face and chest being omitted. Edema of the lower extremities was slow to develop. Repeated aspirations of the right chest were made, from 200 to 900 c.c. at irregular intervals from 2 to 4 days, being removed, with immediate benefit in the patient's cyanosis, dyspnoea, pulse and general well being.

An x-ray on March 7 stated that the lower two-thirds of the right pleural cavity had an absence of lung markings and an increased density. The upper lobe on the right side showed some mottling. The heart was reported as being markedly enlarged to the left, also to the right.

March 15. X-rays of the pelvis and lumbar spines showed no pathology.

March 23. The pulse was weak and thready, the patient dyspnoeic and cyanotic. Removal of 700 c.c. from the right pleural cavity gave but little relief.

The fluid for the first time was reported as blood tinged.

March 25. Patient complained of feeling of suffocation. For the past few days she had coughed up a fresh clotting blood. A loud pleuritic rub was heard over the left base, transmitted to almost the entire lung posteriorly. The right chest was dull to the lower tip of the scapula posteriorly. Heart sounds were weak but regular. A respiratory death occurred early the following morning.

DR. DUNN'S DISCUSSION:

Studying the bill of compaints as they are presented in the hospital record, one's attention is immediately directed to the heart as the center of the trouble. Pain in the upper abdomen, cough on slightest exertion, nausea, vomiting and shortness of breath can all be accounted for on a cardiac decompensation basis. But were one to go back and place himself in the position of the general practitioner who first saw the patient, one's point of view might be considerably changed. The onset of the present trouble was sudden and occurred about two months before entrance. The previous day's hard work could easily be coincidental. The following morning a severe pain was felt in the epigastrium and right hypochondrium. It was a constant, dull, achy pain, which radiated through the body to the right shoulder. Cholecystitis was considered by the physician at this time. The age of the patient would support such an assumption. The nausea that followed would be expected; but the patient did not offer details and she was not questioned as to previous gastro-intestinal symptoms, such as: Belching of gas, dyspepsia, inability to eat fats, etc. But with such an onset, however, cholecystitis should not be the only consideration. Heart muscle failure should come to mind. One must always keep in mind that in a great number of apparently acute abdomens the trouble proves to be above the diaphragm.

During these first three days of the attack rather severe chills were suffered. Most illnesses characterized by sudden onset with chills fall in the class of infection, for the onset of infections are, as a rule, sudden. To say whether this infection should be placed in the biliary or in the circulatory system requires additional information. It would assist us to know whether this pain was affected by exertion or whether there was any relationship of the pain to food. The point of clay-colored stools during this period, but without jaundice, is stressed in the history. Clay-colored stools is an observation that is productive of a great deal of error. In the first place the majority of stools so described are not really clay-colored; they are yellowish-white stools which occur in people on a milk diet. With simple laboratory tests available for bile in the stools, clay-colored stools should be given little weight.

Gradually dyspnoea developed, appearing on the slightest exertion and causing her to sit up to sleep. Orthopnea always means trouble in pulmonary ventilation. It is either cardiac or pulmonary in origin. Of the pulmonary defects, asthma, pleural effusions, pneumothorax, chronic interstitial inflammation of the lungs, and extensive, destructive and fibrotic processes in the lung are the usual causes for people to sit up in bed to breathe. Pneumonia does not fall in this class. Always distrust the diagnosis of pneumonia in a patient who is sitting up to get air. Orthopnoea places the infection in the catalogue of intra-thoracic infections, and with the absence of any of the above conditions capable of producing orthopnoea because of a pulmonary defect, we are tempted to further define our invader by labelling it as: Infection, intrathoracic and cardiac.

Her illness at the time of entrance had lasted from January 10th to February 26th. In this six weeks' period she had gained thirteen pounds. Why should a patient gain this way in a more or less acute illness?

Student: Edema.

Dr. Dunn: Further indication of a cardiac decompensation.

Previous illnesses and family history give no assistance in the analysis of the case. In the physical examination we see a white woman, looking older than stated age, lying propped up in bed, an anxious expression on her face, dark circles surround her eyes, her color is dusky and exertion causes cyanosis. This is a picture characteristic of any extreme difficulty in maintaining circulation and denoting a limited capacity for pulmonary ventilation.

In passing we must call attention to a common oversight. We have suggested as the cause of the illness, infection. In our physical examination we should keep our eyes open for the probable source of infection, not that its eradication at this time would be of any benefit to the patient in question, but that we may understand better the things that may happen from an apparently insignificant invader and so stimulate us to acute observation in the early stages of disease. In this examination "the tonsils were small and scarred." Nothing was said as to the condition of the pillars, of their vessels, of infiltration of the post-pharyngeal tissue, of the ability to express pus, or of the condition of the glands draining this area. Mention is made however of a possible relationship of dental work to the onset of the illness.

In the examination of the chest, mention was made of the accessory muscles of respiration being used; and physical findings were given which would indicate an effusion on the right side. Probably there is a relationship between these findings and the pain described previously as being of a constant, dull, achy character in the epigastrium and right hypochondrium. The points of pain usually found in a diaphragmatic pleurisy are the shoulder, appendiceal region, upper abdomen and lumbar region. Occasionally you will find that the pain is in the back. Coughing usually makes this pain worse. "Moist rales were heard over the left lower lobe. Posteriorly an area of bronchophony and whispered pectoriloquy was found at the level of the second to the fifth dorsal vertebra, extending 4 cm. to either side of the midline." This I assume to mean that there must be some increased density at the hilus of the lung. That is a difficult and illusory area for physical diagnosis.

The heart was enlarged both to the right and to the left. There were no measurements given whereby we can reconstruct the area of cardiac dullness. It would be interesting to know whether the heart was overlaid by the lung or not. The heart sounds were but faintly heard all over the cardiac area. There are about three causes of distant heart tones:

1. A weakly contracting heart,
2. Overlapping of the lung,
3. Effusion.

No data by which we can differentiate these conditions was given.

The urine examinations are indicative of passive congestion. The red blood count was consistently high and the white blood count indicated infection. There are several ways to account for the high red count. The dragging out of the water from the blood stream into the tissues may account for the increase in red blood corpuscles by concentration. But in spite of the symptoms that point to infection, such as the increased white count, there was no fever nor pulse increase until the week preceding death. This does not exclude infection, for in appendicitis, for example, there may be no increase in pulse rate, in temperature, or in white count.

In an examination of the roentgenograms, there is no evidence of tuberculosis but there appears to be fluid in both chests. The heart shadow suggests the possibility of pericarditis with effusion. Later we learn that considerable amounts of fluid were aspirated from the right chest, supporting the x-ray findings. What was the nature of this fluid?

Intern: It was straw colored and the specific gravity was below 1015. It contained at first very few cells, lymphocytes predominating.

Dr. Dunn: A specific gravity of 1015 puts it on the border line of transudate and exudate. One would expect this fluid to be an exudate.

A little more than two weeks before death the vessels on the right side of the neck became very hard, swollen and nodular. They were tender and did not pulsate. Edema of the right arm became pronounced before a "three-quarter" edema of the body developed, only the left side of the face and chest being omitted. There had occurred a thrombosis or thrombophlebitis of the right innominate and its branches.

This case is rather difficult to put together. We are certain of a (1) thrombophlebitis of the right innominate and its branches. Because of the loud pleuritic rub heard over the left base, we assume (2) a left-sided pleurisy. The x-ray would lead us to believe it to be pleurisy with effusion. None of the pictures were taken after the spitting of blood. Again, we must reconsider the nature of the fluid withdrawn. Besides the specific gravity, the albumen should have been run and an accurate cell count made. With the pleuritis existing, this might well have been an exudate. (3) Although the x-ray shadow is not what one would expect in a pericardial effusion, the cardiac findings and course of the disease would strongly suggest its existence. The spitting of blood would suggest (4) pulmonary infarcts. To these we will add (5) ascites, and (6) passive congestion of the liver, kidneys and spleen. And the process is (7) infection. We are undoubtedly dealing with a polyserositis of unknown origin.

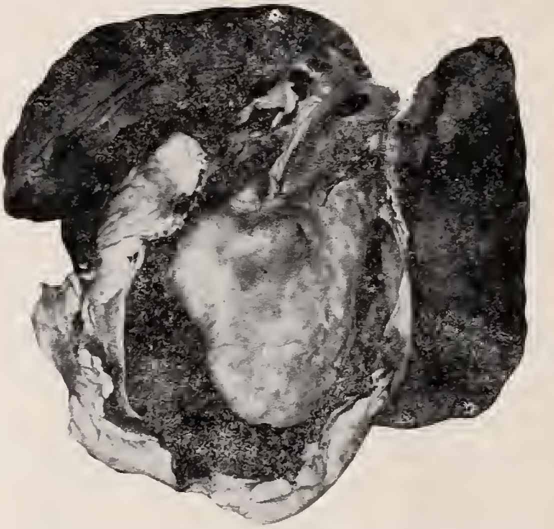
DR. MILLER'S DISCUSSION:

External examination revealed a body in a fairly good state of nourishment. There was more than the usual lividity of the face, neck and back. The upper right extremity was markedly edematous. Both lower extremities and the posterior part of the trunk were also edematous. There was a striking contrast between these edematous portions of the body and the left upper extremity, shoulder and head, which were particularly free from edema. The abdomen was slightly distended.

The peritoneal cavity contained no excess fluid but the viscera were moist. The great omentum was adherent by old scar tissue to the site of the surgical scar. The sigmoid was adherent to the left ovary. The right ovary, fallopian tube and appendix were absent. The uterus was drawn slightly to the left, apparently by adhesions, including the left cornu, fallopian tube, ovary and sigmoid. The lower border of the liver was at the costal border in the anterior axillary line. The right dome of the diaphragm was in the 5th intercostal space and the left in the 6th.

In the right pleural cavity there was 1250 c.c. of bloody fluid and on the left side 450 c.c. of similar fluid. The parietal pleura on each side was partly covered by a hemorrhagic, fibrinous exudate. The pericardial cavity contained 700 c.c. of fluid which looked like pure blood. The pericardial sac measured 4 mm. to 5 mm. in thickness. The inner surface was covered by hemorrhagic, fibrinous exudate, similar to that lining the pleural cavities. Sections showed the normal pericardial sac practically undisturbed except for a few localized areas of lymphocytic infiltration and thickening of the blood vessels. The increase in thickness was the result of the building up of inflammatory exudate on the lining. In places the endothelium of the pericardial sac could be made out beneath the thick layer of inflammatory exudate on the inner side, consisting of connective tissue of various ages, blood vessels, fibrinous exudate and leucocytes. Throughout this exudate there were numerous masses of blood pigment of different ages, indicating that hemorrhage had been frequent. The leucocytes were more numerous near the surface and consisted of lymphocytes chiefly; there were, however, a very few endothelial cells but polys were absent. Scattered throughout this exudative layer and especially near the surface, there were small areas of necrosis and many areas of degeneration. Hemorrhage was evidently the result of necrosis of small capillary walls.

In situ, the heart laid transversely so that the base of the ventricles was in the vertical plane. The heart was small, its weight estimated to be 150 gm. In situ, its transverse diameter was 9.5 cm. and its vertical diameter 8.5 cm. The surface was covered by fibrinous, hemorrhagic exudate, similar to that on the lining of the sac and pleural cavity. This exudate was about 2 mm. thick and completely obscured the muscle. Here and there in it were large, irregular yellow masses, evidently the result of degeneration. All of the cavities were small except the right atrium, which was perhaps slightly enlarged. The left atrium was unusually small, measuring approximately 2 cm. in its longest diameter. In its tip was a mural thrombus. Evidently the heart as outlined on the chest before death was in reality the distended pericardial sac. The muscle everywhere was thin, that of the right atrium measuring 2 mm., the right ventricle 2 mm. to 4 mm., the left ventricle 8 mm. to 10 mm., and the left atrium 1 mm. to 2 mm. The endocardium was everywhere smooth and glistening and showed no evidences of recent or remote pathology. The heart muscle was definitely brownish tinged instead of the fleshy-red color. The aorta contained a moderate amount of atheroma. It was small in diameter. Sections of the heart muscle showed it to be markedly degenerated; it was depleted in glycogen and striae were not visible. The endocardium and muscle were quite free from leucocytic infiltration or connective tissue reaction. The visceral pericardium, however, was similar to that described above. It differed slightly in that there were many more endothelial leucocytes and, in the locations where the leucocytic infiltration was most dense, there were quite large areas of necrosis. Two giant cells were seen but these were not in close relation to necrotic areas. Here, also, the endothelium of capillaries and larger vessels was so large that the structures were first mistaken for epithelial glands and the diagnosis of metastatic carcinoma was entertained for some time. Due to the fact that there was a great deal of similarity between these epithelial like cells and the cells lining unmistakable blood vessels, these structures were properly identified as blood vessels with hyperplastic endothelium. Organisms were carefully looked for but only a few small groups of cocci were seen in endothelial leucocytes. Cultures, however, remained sterile for 72 hours. This inflammatory exudate is interpreted as one produced by a low-grade streptococcus.



Anterior view of thoracic viscera showing the small heart covered by thick, fibrinous exudate, the large pericardial cavity and the thickened percardial sac. The thrombus in the superior vena cava and its large branches is seen to the left of the aorta.

The superior vena cava was almost occluded by thrombosis which ended at the orifice into the atrium. The right subclavian, internal and external jugulars were all completely occluded by large, firm thrombi. The azygos was not occluded. No return circulation was demonstrated from the right upper extremity; the return from the left side was only impeded by partial closure of the lumen of the left innominate and superior vena cava. These vessel occlusions evidently were responsible for the swelling of the upper extremity, but no occlusions were found in the veins coming from the lowers so that the edema here must have been on a different basis. Sections of these veins and thrombi showed the clots to be varying in age. A feeble attempt at organization had begun at the periphery. Cultures of these clots remained sterile.

The lungs were both heavier than normal; the left weighed 450 gm. Its pleura was covered by recently formed fibrinous exudate similar to that on the chest wall. The lower lobe was involved in an infarct, all except a small portion at the base. Similar infarcts were found in the lingula, along the anterior border and about the mid portion of the lower border of the upper lobe. These infarcts were dark blood red in color, very firm and not infected. Sections revealed large pulmonary arteries that were occluded by recent emboli which freed readily from the walls of the vessels. The pleurisy was evidently by extension from the pericardium and not from any lung infection. The right lung weighed 600 gm. The pleura here was covered by similar fibrinous exudate and there was an old adhesion between the upper and middle lobes. All of the lower and middle lobes were infarcted. The emboli in the occluded vessels extended almost to the hilus. There was no evidence of infection in this lung except that in the pleural covering. Sections of the lung showed nothing but the usual picture of recent infarction and fibrinous pleurisy.

The liver weighed 1260 gm. On the dome of the right lobe there was thick fibrinous exudate without hemorrhage. The sectioned surface showed the typical nutmeg appearance of chronic passive congestion. The color was very much lighter than normal. Microscopic study revealed much atrophy of the parenchyma in the region of the central veins, accompanied by marked congestion of the sinuses and much hemorrhage. Most of this hemorrhage was recent. However, the central portions of the lobes were distorted with blood pigment varying in its stage of disintegration, indicating that former hemorrhage had occurred. There was no leucocytic infiltration or other evidence of infection.

The gallbladder was normal on gross and microscopic study. There was no obstruction of the bile ducts anywhere.

The gastro-intestinal tract was well distended with gas. The mucosa of the stomach was blotched with recent capillary hemorrhage. The appendix was absent as the result of surgical procedure and the stump was well healed. The sigmoid was bound to the ovary as mentioned above, evidently because of inflammation extending to it from the ovary.

The pancreas showed no changes on gross examination but microscopic study revealed some hemorrhage into the stroma and surrounding fat and a few areas of sparse lymphocytic infiltration.

The spleen weighed 120 gm. It was firm and cut with increased resistance. Pulp could not be expressed. Microscopic study revealed a slight increase in connective tissue and a moderate amount of blood pigment. These changes evidently were the result of chronic passive congestion.

The right kidney weighed 180 gm. and the left 170 gm. The kidneys were similar. The capsules stripped readily leaving a smooth surface. The kidney substance was pale in color but streaked with congested vessels. The sectioned surface bulged. Microscopic study revealed a little cloudy swelling and marked congestion of the vessels of the pyramids and capillary tufts. There was no evidence of permanent damage.

The adrenals were not remarkable save for a deposit of blood pigment in the inner portion of the cortex and dilatation of some of the peripheral vessels.

The uterus was not remarkable save that the right fallopian tube and ovary were absent, evidently the result of surgery, and the left tube and ovary were bound to the sigmoid and cornu of the uterus by old dense adhesions. This was evidently the result of a healed salpingitis and was not active at the time of death.

No changes were noted in the bladder.

The thyroid weighed 10 gm. It was slightly adherent to the surrounding structures by rather dense connective tissue so that dissection was difficult. The sectioned surface was greyish in color, resembling more the sectioned surface of connective tissue than of gland structure. Microscopic study revealed quite a number of localized, very dense collections of lymphocytes in the stroma. The stroma was abundant but without degeneration. The acini were all small and only a very few of them contained colloid. No where was there hyperplasia seen. In many portions the epithelium was apparently gradually disappearing, the acini breaking up and the gland only partially replaced by connective tissue. It is not probable that this decrease in size is the result of infection. Of the acini containing colloid only a few of them had normal staining colloid. Most of this substance had the appearance of serous fluid and there was only an occasional endothelial cell in the acinous lumen.

The postmortem revealed: Edema of both lower extremities and the back of the trunk and the right upper extremity; infarction of both lungs; pleurisy with effusion, bilateral; pericarditis with hemorrhagic effusion and streptococci in etiology; atrophy of the heart with dilatation of the right atrium; mural thrombosis of the superior vena cava with occluding thrombosis of the right subclavian and right internal and external jugular veins; cloudy swelling of the liver and kidneys; chronic passive congestion of the liver, kidneys, spleen; absence of appendix, right fallopian tube and ovary as result of surgery; healed salpingitis, resulting in adhesions to the uterus and sigmoid colon; and atrophy of the thyroid, myxedematous type.

This patient's condition may be summarized as one of streptococcic pericarditis accompanied by marked passive congestion of the viscera and atrophy of the heart. The pain in the epigastrium and hypochondrium, the tenderness of the liver, and the nausea and vomiting on entrance are no doubt manifestations of acute, passive congestion of the liver and gastro-intestinal tract, secondary to myocardial failure. The heart sounds were no doubt faint because of being blanketed by the pericardial fluid. The circulatory failure was evidently the result of a failing, toxic heart muscle. The three-quarter edema is not explained on a mechanical basis since there was no obstruction in the return circulation from the lowers. It is possible then that this edema of the lowers and posterior part of the trunk is secondary to circulatory failure and that the enlargement of the right upper extremity is the result of venous obstruction. But, the return flow was not entirely cut off since some blood could escape from the upper extremity, posteriorly through the perivertebral plexus and anteriorly through the long thoracics to the azygos system which was functioning. The thrombosis was evidently not the result of infection as generous cultures of the blood clots remained sterile. The pericarditis is no doubt on an infectious basis. It has been observed, however, that thrombosis of veins is extensive in patients with hypothyroidism; the exact cause and effect is not clear. The infarcts of the lung have many possibilities of origin in the venous thrombi.

Dr. Dunn: Was there any peritoneal involvement?

Dr. Miller: None except a little exudate over the liver where the infection had extended through the diaphragm. I have no way to account for the occlusion of the blood vessels. The thyroid was small and one patient whom we had with myxedema had a very extensive thrombosis and I thought there was perhaps some connection between a hypothyroidism and thrombosis but this patient had no clinical evidence of myxedema.

Dr. Dunn: All of the anatomical diagnoses suggested were confirmed. The clinical course was that of an infection. No clinical evidence was given on which to postulate a myxedema.

DEDICATION OF NEW HOSPITAL UNIT, UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE, OMAHA, NEBR., NOVEMBER 30, 1927.

ADDRESS BY JOHN R. WEBSTER, REGENT.

Chancellor Burnett, Dean Keegan, Honored Guests, Ladies and Gentlemen:

We have heard from Dr. Mitchell the interesting story of the origin and growth of our College of Medicine and we are here to dedicate this beautiful new building for which some expression of gratitude is surely due; so I want to say that I think the people of Omaha and all Nebraska should extend most hearty thanks to the Board of Regents of our University, for, out of a very meager appropriation, all of which was needed for buildings and improvements in Lincoln, they unanimously set apart the sum of $250,000 to construct this additional unit of our Medical Hospital.

Then, too, I think we owe thanks to John Latenser & Sons, Architects, for our Campus Plan and for their skill in producing such a fine building out of the funds available. And I must not forget Dean Cutter and Dean Keegan, who collaborated with the architects and gave of their medical knowledge that the details of this building should be the best for hospital treatment and medical instruction. But, more than all, I take off my hat to Miss Burgess and her splendid corps of nurses. They certainly are heavenly angels ministering to the sick and suffering on earth. At the end of this program they will take you through the buildings and let you see what is being done here for patients from all over Nebraska, for those of every age from the new-born babe to men and women who have reached the declining years of life.

As you go through these buildings, I imagine you will ask some questions. What? Where? How? Perhaps it may seem mercenary but the question will arise—What did all these buildings and grounds and equipment cost? To a business man this will naturally occur, and the total cost must be figured in millions of dollars.

Where did we get this money? It came to us first through appropriations by the Legislature, from taxes on every house and home in the state. Every tax payer in Nebraska has a part and an interest in this institution, but I want to say to you that for every dollar expended here more than two dollars have been returned to the tax payers of our State.

How was this accomplished? From the inception of this College of Medicine, the physicians of Omaha, without a single cent of compensation, have given their time and talent, not only for the instruction of our students, but also for the care and surgical treatment of patients in the hospital. Few people understand this, many cannot believe it; but it is a remarkable fact.

We have our College of Law, but no lawyer leaves his office, or his case in court, to instruct the students. We have our College of Dentistry, but no dentist lays aside his practice for an hour to serve in that college. We have a College of Agriculture, but our farmers do not crowd the campus seeking to teach the students. In every other college and school in the University all of the faculty are on the pay roll. Only here in this College of Medicine do we have those who so love their profession that they are willing to give of their time and talent without money and without price.

Go to a dentist and he will charge you $10.00 an hour for his service, and it is worth it. So how can he spend such precious time teaching students? But it is different in this College of Medicine. The most eminent physicians—and we have them right here in Omaha whose standing and acknowledged ability are known all over the world—who, for many years have come to this hospital day after day, month after month, and year after year, to teach our students, and to give all that they have of ability, knowledge and skill to the poorest patient from any part of Nebraska without a cent of pay. Surely their names ought to be blazoned on the scroll of eternal fame. I should like to repeat them here but the list is long and my time is short.

I only want you all to know that in this service, given by the physicians in Omaha, there is returned to the state of Nebraska more than twice as much as all these buildings and grounds have cost, and all the cost of operating this hospital and College of Medicine. Then, too, I want you never to forget that here in this hospital, the poorest man, woman and child receives, without cost, the best service of the most eminent and skillful surgeons. Aye! Here they receive more than all the money of a multi-millionaire can buy, for here the service rendered is a service of love.

ADDRESS BY DR. HENRY B. WARD, HEAD OF THE DEPARTMENT OF BIOLOGY, UNIVERSITY OF ILLINOIS, CHAMPAIGN.

(Former Dean of University of Nebraska College of Medicine).

The human race has always valued highly health and strength but only recently as history goes has man come to appreciate that the state has a deep interest in the health of its citizens. So important has physical welfare come to rank in the minds of the leaders in public affairs that three years ago in the calm interval between political campaigns, President Coolidge called a National Conference on Outdoor Recreation. There, under the guidance of a Cabinet Committee and with the aid of more than a hundred men and women representing various lines of activity related to the outdoor world, a plan was worked out to insure a more vigorous American manhood and womanhood through more frequent and more general contacts with the outdoor world. The health of its citizens is of primary importance to the state and nation.

Through all the ages disease has been an ever present menace to the existence of the individual and of the community. Primitive man sought to drive it away by incantations and magic with sorrowful lack of success in the individual case. Moreover, when an epidemic appeared the community sought safety in flight, abandoning then its homes and their possessions to start once more in a new location. As late as the Seventeenth Century London was almost depopulated and England suffered appalling loss in money, commerce and human life from the plague. Yes, even within the memory of men in this audience the commerce of great cities in our own country has been paralyzed and a sad toll of human life been exacted by an invasion of the plague or of yellow fever. And the losses due to less conspicuous diseases are unfortunately large every year.

Yet in this age and in our own country man is steadily losing his fear of disease and relieving himself from the burden of loss it has entailed in the past. He has done this by his growing store of knowledge as to the cause and method of control of these troubles. One by one the ills to which the flesh is heir have been followed to their sources and the menace to man eliminated. As a result the average span of human life has been more than doubled in the past century and the expense and sorrows of sickness very greatly reduced.

Progressive commonwealths, alive to the fundamental interests of their citizens, have found it wise to provide both for the study and for the treatment of disease among the people. Today we are celebrating the opening of a new unit of the University Hospital. This is a large and greatly needed addition to the plant of the Medical School of the State University of Nebraska. Its installation marks a forward step in a movement inaugurated many years ago and continued since then with conspicuous success by a distinguished group of workers and teachers unselfishly devoted to the service of the state. On such an occasion it may be proper to outline briefly the way in which this work has been of such fundamental importance to Nebraska and in which the new hospital will add to its power of service. With an intelligent and forward-looking population, Nebraska seeks naturally for the best assistance possible in the fight against disease and death. In its College of Medicine it endeavors to provide the best of training that its students may be most effectively prepared to serve the state in coming years. To this end the student must have not only able teachers and well equipped laboratories but also well planned and effectively managed hospitals that he may see for himself the best methods of handling the sick and the results obtainable under proper conditions. The educational value of the new hospital rightly deserves first place in any estimate of values.

The new hospital means also that some of the citizens of Nebraska who are unfortunately subject to some malady will find opportunity for care and treatment that would otherwise be available only at large expense and thus out of the reach of those for whom it is specifically designed. In it the state sets standards and thus indirectly serves many more than those actually treated in the state hospitals. Evidently then this new hospital will perform a significant service for Nebraska in its struggle to preserve the health of its citizens.

In still another way, and perhaps most of all, the state hospitals render great service to the commonwealth. This is in a fashion not often recognized or at least only imperfectly evaluated. The new hospital means much to the citizens of Nebraska in the opportunity it affords for the study of disease. Despite marvelous advances already made, our knowledge of disease is still imperfect. The experimentation in our laboratories discloses only part of the truth. To this must be added the constant, careful observations of the clinic. Only there can be made the exact notation of symptoms, the precise comparison of cases, the rigid analysis of details which separates the significant from the trivial or secondary features. These results are a by-product of hospital care. They are achieved by the hospital staff, both nurses and doctors, working together and with singleness of purpose devoted to the care of the patients in vigils that never relax day or night. Out of these records studied by the master minds to which the University has given charge of the various departments and fields of work in the College of Medicine, comes new power in recognizing, treating and preventing disease. This greater effectiveness in the handling of disease redounds ultimately to the advantage of every doctor and every patient, yes, every citizen in the state of Nebraska. It is also an evident service which Nebraska performs for the nation and the world at large. We are justified in regarding it as in a measure the return she makes for the accumulated store of knowledge which she has inherited from distant nations and past ages. Without that rich heritage Nebraska, with all her energy, her ability and her idealism, could not have builded the splendid institution whose enriched opportunities we celebrate today. With such facilities and a vision of the future, this College may go forward confidently to the achievement of even greater work than the past has known.

MINUTES OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY, SEPT. 14, 15, 16, 1927, DES MOINES, IOWA.

Wednesday, Sept. 14—Morning

Members of The Medical Society of the Missouri Valley convened in annual session at Hotel Fort Des Moines, Des Moines, Iowa, September 14, 1927. The meeting was called to order at 9:45 o'clock by Dr. Granville Ryan, Chairman of the General Arrangement Committee, who, on behalf of the local profession, extended a cordial welcome to the visiting members and guests of the Society, following which Dr. A. D. McKinley, Vice President of the Polk County Medical Society, extended to The Society of the Missouri Valley the hearty greetings of his fellows. The address of welcome for the city was then given by the Mayor of Des Moines.

President Thomas G. Orr, Kansas City, took the chair.

Dr. H. W. Dahl, Des Moines, read a paper on "Recent Developments in Muscle Physiology". Discussed by Drs. Donald Macrae, Jr., Council Bluffs, Iowa, and Julius S. Weingart, Des Moines, Dr. Dahl closing the discussion.

An address on "Clinical Signs of Peripheral Nerve Injury", illustrated with lantern slides, was presented by Dr. Lewis J. Pollock, Professor and Chairman of the Division of Neurology and Psychiatry, Northwestern University College of Medicine, Chicago.

Dr. Walter L. Bierring, Des Moines, gave an address on "Recent Developments in Pernicious Anemia", followed by Miss Kilsum, Dietitian, Des Moines, who demonstrated preparation of the clinical substance discussed by the essayist in connection with treatment of the condition. The paper was discussed by Drs. Caryl Potter, St. Joseph, Mo.; Julius S. Weingart; Ralph H. Major, Kansas City; Donald Macrae, Jr.; A. D. Dunn, Omaha; and F. A. Hecker, Ottumwa, Iowa; Dr. Bierring closing the discussion.

Dr. A. J. Carlson, Professor and Chairman of Department of Physiology, University of Chicago Medical College, Chicago, presented an address on "Facts and Fancies on Present-Day Organotherapy".

Wednesday, Sept. 14—Afternoon

The meeting was called to order at 2 o'clock by the President, who appointed the following members to act as the Credentials Committee: Drs. Granville Ryan, Fred Moore, Des Moines; and Caryl Potter, St. Joseph, Mo.

Dr. Lewis J. Pollock, Professor and Chairman of the Division of Neurology and Psychiatry, Northwestern University College of Medicine, Chicago, gave a clinical address on the diagnosis of nervous diseases, with presentation of two case reports and moving pictures of several cases illustrating the text of his address.

Papers on "Granuloma Coccidioides With Report of a Case", were presented by Dr. C. C. Tomlinson, Assistant Professor of Dermaology and Syphilology, University of Nebraska College of Medicine, and Paul Bancroft, B. Sc., Fellow Department of Experimental Medicine, University of Nebraska College of Medicine, Omaha. No discussion.

Dr. C. A. Roeder, Assistant Professor of Surgery, University of Nebraska College of Medicine, Omaha, read a paper on "Pyloroduodenostomy for Duodenal Ulcer". No discussion.

Dr. Barney M. Kully, Assistant Professor of Otorhinolaryngology, Creighton University College of Medicine, Omaha, presented a paper on "Foreign Bodies in the Esophagus and Respiratory Passages". Discussed by Dr. Donald Macrae, Jr., the essayist closing the discussion.

The subject, "Surgical Treatment of Carcinoma of the Breast and Acute Gangrenous Perforated Appendicitis", illustrated by motion pictures, was presented by Dr. Caryl Potter, St. Joseph, Mo. No discussion.

Wednesday, Sept. 14—Evening

The meeting was called to order at 8:30 o'clock by the President.

Dr. A. J. Carlson, Professor and Chairman of Department of Physiology, University of Chicago Medical College, Chicago, addressed the Society on "Some Aspects of Gastric Physiology and Pathology", (by invitation).

Dr. Richard L. Sutton, Professor of Dermatology, University of Kansas College of Medicine, Kansas City, Kan., gave a highly interesting and instructive talk on "Tigers" with lantern slides, illustrating the pleasures and dangers encountered by himself and companions while hunting big game in Indo-China and India, and in the course of which were depicted by word and picture the homes, villages and mode of life of the native inhabitants of these countries.

Thursday, Sept. 15—Morning

The meeting was called to order at 9 o'clock by the President.

Report of the Secretary, Dr. Charles Wood Fassett, was presented by Acting Secretary, Dr. J. M. Bell. Upon motion by Dr. A. D. Dunn, duly seconded, the report was adopted.

(Report).

Dr. Bell then presented a communication from Dr. Fassett tendering his resignation as Secretary of the Society.

Dr. A. D. Dunn: I move the acceptance of the resignation of Dr. Fassett as Secretary, and also move that he be made an honorary member of the Association without dues for the balance of his life, and that the secretary of the Society be instructed to select for presentation to Dr. Fassett a suitable gift as a token of the love and esteem in which he is held by the members of the Society.

The motion was seconded and unanimously carried.

Dr. Dunn then presented report of the Committee on Constitution and By-Laws proposed for adoption in connection with reorganization of the Society, as follows:

(Report).

Dr. Dunn moved that the report of the committee be accepted and that the constitution and by-laws as read be adopted and become the constitution and by-laws of the Society. The motion was seconded by Dr. Bell, and carried.

Report of the Treasurer was presented by Dr. O. C. Gebhardt, with the suggestion that the bills be presented to the Executive Committee and go through the regular course.

It was accordingly moved, seconded and carried that the report of the Treasurer be accepted and referred to the Executive Committee. It was so ordered. (Report).

Dr. Nelse F. Ockerblad, Associate Professor of Clinical Urology, University of Kansas College of Medicine, Kansas City, Kan., presented "The Problem of Ureteral Obstruction", illustrated by lantern slides.

Dr. Herman L. Kretschner, Professor of Urology, Rush Medical College, Chicago, gave a talk on "Consideration of Some Borderline Problems in Urology", with lantern slides.

These two papers were jointly discussed by Drs. Jonas Fresher, Kansas City, Mo.; A. G. Fleischman, Des Moines, Iowa, and A. D. Dunn.

Dr. Wm. T. Coughlin, Professor of Surgery and Director of Department, University of St. Louis School of Medicine, St. Louis, Mo., presented an address on "The Diagnosis and Modern Treatment of Trigeminal Neuralgia Major." No discussion.

Dr. Ralph H. Major, Professor of Medicine, University of Kansas College of Medicine, Kansas City, Kan., talked on the subject, "Etiology, Mechanism and Treatment of Hypertension". No discussion.

Dr. Alfred J. Brown, Assistant Professor of Surgery, University of Nebraska College of Medicine, Omaha, addressed the Society on "Treatment of Paralysis of the Facial Nerve", with lantern slides demonstrating the technic of operation, followed by moving pictures illustrating the two case reports presented. No discussion.

Thursday, Sept. 15—Afternoon

The meeting was called to order at 2 o'clock by President Orr.

The following members were appointed by the President as a committee on nominations for the election of officers, with instructions to present their report Friday morning: Drs. A. D. Dunn, Omaha; Fred Moore, Des Moines, and Alfred J. Brown, Omaha.

Dr. Herman L. Kretschmer, Professor of Urology, Rush Medical College, Chicago, conducted a clinic with presentation of several patients.

Dr. C. C. Nesselrode, Associate Professor of Surgery, University of Kansas College of Medicine, Kansas City, Kan., read a paper on "Perverted Physiology as a Factor in Diagnosis of Diseases of the Biliary Tract". Discussed by Dr. Donald Macrae, Jr., and Dr. Nesselrode in closing.

Dr. A. P. Munsch, University of St. Louis, St. Louis, Mo., read a paper on "Some Observations on the Treatment of Pernicious Anemia". No discussion.

A clinic was given by Dr. Wm. T. Coughlin, Professor of Surgery and Director of Department, University of St. Louis School of Medicine, St. Louis, Mo., with presentation of two patients, one having sustained a head injury, the other exhibiting cardiac and thyroid symptoms. No discussion.

Dr. Oscar Monroe Gilbert, Associate Professor of Medicine, University of Colorado College of Medicine, Boulder, Colo., presented a paper on "Progress in the Treatment of Tuberculosis". No discussion.

Thursday, Sept. 15—Evening

Members of the Society and their guests assembled at the Wakonda Club for the evening program. Following dinner and a social hour with musical entertainment, the meeting was called to order with Vice-President Fred Moore acting as Chairman. Dr. Thomas G. Orr, Professor and Chairman of Department of Surgery, University of Kansas College of Medicine, Kansas City, Kan., then read his presidential address entitled, "Salt in Medicine".

Friday, Sept. 16—Morning

The meeting was called to order at 9 o'clock by the President.

Report of the Credentials Committee was presented by Dr. Granville Ryan, Chairman, as follows:

Your committee reports favorably on the applicants whose names have been presented, and I move you that these men be accepted to membership in this Society.

The motion was seconded, and carried.

Report of the Nominating Committee was presented by the President, as follows:

"Your Nominating Committee offer the following names as their choice of officers for the coming year:

President—Fred A. Smith, Iowa City;

President-Elect—Ralph H. Major, Kansas City, Kansas;

Secretary-Treasurer—Earl C. Sage, Omaha, Nebr.;

Councilors—Granville Ryan, Des Moines, and Donold Macrae, Jr., Council Bluffs, Iowa; and J. M. Mayhew, Lincoln, Nebr."

It was moved that the report of the Nominating Committee be received as being accepted as a whole; that the rules be suspended and that the Secretary be instructed to cast the vote for the nominees recommended by the Nominating Committee. The motion was duly seconded, and carried unanimously.

The Secretary announced that he had cast the vote as directed, whereupon the nominees named were declared elected as officers of the Society for the ensuing year.

Dr. David P. Barr, Professor of Medicine, Washington University, St. Louis, Mo., read a paper on "Hopeful Aspects of the Study of Cancer". Discussed by Drs. Julius S. Weingart; Nelse F. Ockerblad, and F. A. Hecker, the essayist closing the discussion.

Dr. George B. Eusterman, Mayo Clinic, Rochester, Minn., presented a paper on "High Lights of Gastro-enterologic Progress". No discussion.

Dr. E. D. Plass, Professor and Chairman of Department of Gynecology and Obstetrics, University of Iowa College of Medicine, Iowa City, Iowa, read a paper on "Sedimentation Rate in Obstetrics and Gynecology". No discussion.

Dr. Arthur Steindler, Professor and Chairman of Department of Orthopedics, University of Iowa College of Medicine, Iowa City, Iowa, presented a paper on "The Duties of Practitioner in Prevention of Spinal Deformities". No discussion.

Friday, Sept. 16—Afternoon

The meeting was called to order at 2 o'clock by President Orr.

Dr. George B. Eusterman, Mayo Clinic, Rochester, Minn., gave a clinical talk on gastro-enterologic conditions, with presentation of two patients. No discussion.

Dr. Fred A. Smith, Professor and Chairman of Department of Theory and Practice of Medicine, University of Iowa College of Medicine, Iowa City, Iowa, gave an address on "Atypical Chronic Glomerular Nephritis", with lantern slides illustrating cases. No discussion.

Dr. J. D. Boyd, Professor of Pediatrics, University of Iowa College of Medicine, Iowa City, Iowa, presented a paper on "Observations on the Arrest of Dental Caries in Children". No discussion.

Dr. Donald Macrae, Jr., Council Bluffs, Iowa, read a paper on "Acute Intestinal Obstruction, Causes and Treatment", illustrated with moving pictures. Discussed by Dr. Thomas G. Orr, Kansas City, and by Dr. Macrae in closing.

Dr. F. B. Langdon, Des Moines, Iowa, demonstrated "Practical Application of Forceps", illustrated on the manikin, with moving pictures showing technic. No discussion.

Dr. Emil C. Junger, Soldier, Iowa, moved that a vote of thanks be extended to the local profession of Des Moines for the great hospitality extended to the visiting members. The motion was seconded, and unanimously carried.

Adjourned.

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HAPPY NEW YEAR

THE ANNUAL NOVEMBER CONFERENCE IN CHICAGO

The annual conference of secretaries of state medical associations and editors of state medical journals was held at the American Medical Association headquarters, Chicago, November 18 and 19. These meetings furnish a continuous feast of discussion of methods of organization and procedure, bringing the viewpoints of all those attending from the most remote as well as from nearby states. Out of this heterogeniety come viewpoints of a composite character which guide the representatives of the several states in their contact with the organized profession of their states.

Dr. Jabez N. Jackson, Kansas City, President of the American Medical association, gave the opening address. Dr. Jackson represents the highest type of American citizenship as found in the Middle West. He plead for us to cultivate the fraternal relationship of the physician at medical meetings, that more social intercourse is needed—a phase of medical society work for which this writer has stood ever since he obtained recognition from the organized profession. There have been medical society meetings in which the social atmosphere was absolutely chilly. Let us all help to develop the more sociable spirit of the average medical man. Speaking of welfare work, Doctor Jackson said the medical profession had done more for the Public Welfare than any other class of people, not excepting the ministry.

Dr. W. S. Thayer, President-Elect of the American Medical Association, deplored the danger of a purely laboratory training and an absence of clinical training of the younger physicians.

The conferences of officers of the three adjoining states societies—New York, Pennsylvania and New Jersey—to consider organizational and welfare problems was featured at the meeting with the contention that much good resulted from the meetings.

Dr. Holman Taylor of the Texas State Medical Society and Journal, made a plea for a continuous program committee, a semi-permanent committee, some members of which should be elected each year so as to make it a continuous committee. The idea met with much favor. It was contended that a permanent committee elected for fitness could produce better programs than committees appointed each year who might have little idea of the needs of the profession.

Dr. Morris Fishbein, editor of the Journal American Medical Association, believes publicity in newspapers—about state society meetings—very important. The publicity should be well thought out and presented to papers at time of meeting. Press contacts should be maintained continuously to get the best results.

Dr. George Kress, Los Angeles, one of the editors of *California and Western Medicine,* thinks the council should appoint all committees—not the president; presidents come and go—the association goes on forever.

Dr. F. B. Stephenson, Denver, secretary, Colorado Medical Society, advocated historical exhibits from county societies at state meetings.

It is impossible to touch upon all the matters brought out in the meeting, which was a very profitable one to your representatives from Nebraska as it must have been to all present.

CALL FOR PAPERS

Any member who wishes a place on the program for the May meeting at Hastings, will please send his name and title to the office of the Secretary, Center McKinley Bldg., Lincoln, Nebraska.

—R. B. Adams, Sec.

BENJAMIN R. McGRATH, M. D., F. A. C. S.

Benjamin R. McGrath was born on a farm in Jo Daviess county, Illinois, May 17, 1873. After graduating from high school at 17 he began to teach and with some intervals of normal training continued to teach for some years, having charge of the schools of Grant, Nebr., for three years. He was graduated from the Medical Department of the University of Illinois in 1902 and immediately went into practice at Grant where he was the only physician in the county and where by his very isolation he developed self reliance and an ability to meet emergencies hard to develop in any other way.

In 1904 he located in Grand Island and gradually worked into surgery.

He was in the Medical Corps of the Army during the World War from August, 1917, to February, 1919, and went to France with Base Hospital No. 116, was at various fronts with an operating team and had charge of Operating Team No. 35.

Dr. McGrath has always taken a keen interest in medical organization and also in community welfare work.

Greetings

from the Incoming President

At the beginning of this new year, I am delighted to greet the membership of the Nebraska State Medical Association as President.

Each new year sees civilization advanced to a higher plane, so we may expect 1928 to be the best year the world has ever seen.

The problems to be solved and the tasks to be done become greater and greater. The strength of the individual is not enough for many of the burdens of the times, so individuals must group themselves into organizations for greater strength.

Hence, there is greater need for medical organization than ever before and more reason why we should all give our loyal support to our medical organizations. We show good business, good ethics and good citizenship by such support.

—B. R. McGrath.

SECOND UNIT UNIVERSITY HOSPITAL OPENED

The new unit of the University Hospital, a teaching part of the University of Nebraska College of Medicine, was opened November 30 with impressive exercises, Dean J. J. Keegan presiding.

The speakers' program consisted of Hon. Lincoln Frost, secretary of the department of public welfare, representing the governor; Dr. A. R. Mitchell, Lincoln, first dean of the University of Nebraska College of Medicine; Hon. John R. Webster, regent of the university and chairman of the committee on medical education; Dean E. A. Burnett, acting chancellor of the university; Dr. Henry B. Ward, former dean of the University of Nebraska College of Medicine, now chairman of the department of biology, University of Illinois, Champaign; Hon. John W. Robbins, chairman on revenue and taxation, legislative session of 1927.

Three thousand persons were personally conducted through the new unit during the afternoon. The new unit houses the medical library of 35,000 volumes in spacious quarters in the basement and on the upper floors several wards are set apart for orthopedic and for psychiatric cases, besides the additional wards added to the medical, surgical and obstetrical service.

A reception at Conkling Hall on the campus, fostered by the Faculty Women's club to whom much credit is due, followed the speaking program, lasted several hours and was so well attended that it was extremely difficult to move about in the spacious reception halls.

Nothing could better demonstrate the keen interest taken by the profession of the state and the lay public of Omaha and vicinity in the added facilities of this state hospital, then the attendance at the dedication.

The addition will be a valuable asset to the College of Medicine which has done such superior work in recent years and a priceless boon to the needy ill of the state who may here receive medical and surgical care of the highest order without price.

THE PUBLICITY COMMITTEE

The publicity committee created several years ago has done a tremendous amount of research work as a basis for action and has found the problem of publicity a difficult one to handle successfully and diplomatically. Those of us who have chafed for immediate and aggressive action have had little conception of the difficulties in the way. Paid newspaper publicity, as all may readily see, can easily be countered by like publicity from the cultists whose professional commercialism is undoubted, and whose publicity is thoroughly commercialized. Great diplomacy must be used in our publicity work. Education of the public must be by appeal to reason—not by appeal to the sensational. Quite recently, owing to a press of professional work, Dr. C. A. Roeder, since the organization of the committee, chairman, resigned, and Dr. E. E. Hays, Falls City, member of the committee, was appointed chairman by President Potter.

It is perhaps early to speak for the newly reorganized committee, but it may be stated that the committee has in mind organizing a speakers' bureau and soliciting a number of representative men throughout the state, who will be subject to call to appear before various lay groups and address them on medical subjects of public interest, and to get in touch with prominent lay organizations interested in public welfare and attempt to induce them to permit medical men to appear on their programs. It is also planned to arrange for a series of health talks once a week over the radio. All of which seems feasable, practical and without objection.

The writer has always had a feeling, that metaphorically speaking, the organized profession has too much indulged in hiding its light under a bushel.

MEDICAL HISTORY OF NEBRASKA

The profession will be pleased to learn that a history of Nebraska medicine is in the course of preparation. Dr. A. F. Tyler, Omaha roentgenologist, is supervising the work, aided by an advisory committee of representative physicians from all parts of the state. The work is being compiled by Mrs. Ella Fleishman Auerbach, a journalist of note and author of a recent work on Jewish Settlements in Nebraska.

The history will include chapters on the Nebraska schools of medicine, hospitals and nurses' training schools, achievements of Nebraska physicians in science, war service, art, music, letters and political life; in the foreign mission field; and will reflect considerable research into early Nebraska records.

The Medical History of Nebraska, to be published April 1, 1928, will be welcomed by the entire profession and will have its whole-hearted support.

IMPORTANCE OF PEDIATRIC CARE IN OPERATIVE TREATMENT OF HARE-LIP AND CLEFT PALATE

J. A. Henske, Omaha (*Journal A. M. A.*, Nov. 12, 1927), recommends that every infant who is to undergo an operation for harelip and and cleft palate should receive a routine roentgen-ray examination to determine the size of the thymus gland. In a series of 103 cases, the mortality was less than 1 per cent, although in the majority of cases the child had two or three operations. Henske is convinced that the mortality of surgery of the cleft palate or of other surgical intervention is lowered only by preoperative and postoperative care under the supervision of a competent pediatrician or one well trained along this line. Every case of cleft palate is first a pediatric problem and second a surgical one. Hospitalization should take place as early as possible. True success and the results obtained cannot scientifically be traced to surgery itself.

A MEDICAL STUDENT OF THE EARLY EIGHTIES

The writer believes that for the sake of history record should be made of the standard of medical education in the Middle West and its practical application, as it existed in the early Eighties of the last century and in pursuance of this idea this article is written. To simplify the text the personal pronoun will be freely used.

The second year's work of high school in a village of 700 people had been completed and I was teaching a district school overlooking the Chariton river in southern Iowa, boarding meanwhile in the family of a retired physician, when I decided to study medicine. A number of young men in high school had decided on their lifework and their influence prompted me to make a decision. The bedroom assigned to me at the retired physician's home contained his medical library which was a very creditable one for the period, and rummaging among the medical books probably assisted me to make a decision.

Having made the decision I got into touch with a young and brilliant physician and surgeon in the village who had graduated just a year previously from McDowell Medical College (later, Missouri Medical), St. Louis, and told him of my decision and asked him to undertake preceptorship, which he very kindly assumed after questioning me very thoroughly to find out if I might not waver in my decision. I was started in my studies by a copy of Gray's Anatomy and a part of a skeleton. I recited to the preceptor every week-end. Later in the winter I read Dalton's Physiology.

My father had failed in the panic of 1873 and the family was very poor. When I told father of my decision to study medicine he told me in a very decided manner that it was foolish to think of such a thing in view of the financial status of the family purse and the seeming impossibility of being able to finance myself.

Times were very hard in southern Iowa in the late seventies,—a series of wet years had partly drowned out the crops. Wages for teachers were very low. I was getting $30.00 per month. The future did not look brilliant with promise, but I had a feeling that persistence would conquer.

The following spring I came to northeastern Nebraska where wages were higher and succeeded in getting a summer school in a Swedish community in which the custom was to have all the summer school possible and to have but two months of winter school. I taught 6½ months that summer and immediately on the close of the school opened a five-months' winter term in another district and in spring again as promptly returned to my work among the Swedes. I was earning $35.00 and $40.00 now and was saving some of it. My wants were very simple. I spent very little for candy and peanuts and limited my expenditure for clothes to an irreducible minimum. For a number of years I never had more than one suit, one pair of shoes and a change of underwear and socks; neither did pioneer life require more.

Meanwhile I had pursued my studies in anatomy, physiology and had read materia medica and therapeutics and Flint's Practice. I had attached myself to the foremost physician in my new home and rode and talked with him at every week-end opportunity and had the use of his library.

The time seemed ripe by the fall of 1880 to take the first year's work in medical college and the accumulated savings—scant enough—less than two hundred dollars, seemed to warrant the venture by the practice of the strictest economy.

The Regular Medical Department of the Iowa State University was chosen for reasons of proximity, economy and because being a state institution, I believed the standard of work would be of a pretty high order, whatever Iowa City with but 5,000 people might lack in facilities for practical medical education.

Board and room of indifferent quality was obtainable at that time for $2.50 per week, the roomer furnishing his own fuel, which was wood readily obtainable by the load at the market square.

The Medical Department at that time was housed in what was then called the South Hall—the first floor was used for a lecture room and the basement for dissection. The entrance corridor housed the nucleus of a museum, botanical and pathological. This antedated the first medical building which was destroyed by fire.

Most of the work was given by lectures and the lectures were all very good—although we found fault with some lecturers—and held the attention of the entire class of about 150 students. There were regular quizzes, but not many. The lectures in chemistry was the dryest part of the course because the teacher, a very learned man, was a foreigner with a decided brogue that could not be well understood. There was no practical laboratory work by the students. We were required to dissect one part of the human body; but as material was scarce, five to seven students were assigned to one cadaver. Surgical clinics were given every Thursday at Mercy Hospital, which had about 35 beds. Laudable pus was taught at that time. Professor Peck, then the foremost surgeon west of Chicago, would not accept Lister's teaching, but he believed in personal cleanliness. There were classes in bandaging. Eye, ear, nose and throat clinic material was abundant and was used to good advantage. Clinics in internal medicine were good and the amount of material which was fairly abundant was used to good advantage.

The gynecological clinic had but one patient during the two winters I attended school. Her case was diagnosed as uterine hyperplasia and she was treated with local applications of carbolic acid, tincture of iodin and glycerine, equal parts. Obstetrics was taught by the aid of a manikin and the principles were well drilled into the students. No obstetric cases were seen by the students while in school.

A three-year graded course was also given to a few who elected it and they were given a little laboratory work in physiology and they got closer to the real clinical work in the hospital.

The following spring, summer and fall were again devoted to teaching the young Swedish hopefuls which furnished part of the needed money for another term at medical college, my original preceptor agreeing to assist me through the year and he also offered me an assistantship with him.

During the last term of teaching, a Swedish farmer in the district developed quinsy, sent for me and insisted that I get him some medicine. I remonstrated, suggested I call a physician from town for him, but he was insistent, said he did not know any of the physicians and had faith that I could help him. I got something for him, just what I do not recall. He promptly recovered and insisted on my accepting $3.00 for my services, saying he knew I saved his life. This was the first money I received for medical service, whether I earned it or not.

I had intended to take three terms at medical school before coming up for graduation, but was dissuaded by friends in school who were going to come up for graduation at the end of the second course of lectures, by the argument that one could take a post-graduate course after a year or two in practice. Little did I realize that eleven years were to elapse before I could take a postgraduate course!

I was graduated with forty-five of my classmates, March 1, 1882, two weeks after my twenty-third birthday, with a standing below the average of the class.

THE WESTERN SURGICAL ASSOCIATION

A notable gathering in Omaha, December 8th and 9th, was that of the Western Surgical Association. It was the 37th annual meeting and the fourth time it has met in Omaha. It is one of the strong surgical associations of America and a scanning of the papers that have emanated from it during more than a third of a century will show that its membership has been responsible for a fair share of the surgical progress during the period of its activity.

The territory covered by the W. S. A. extends from Ohio to the Pacific Ocean and from Winnipeg to Texas. The membership is limited to 175 surgeons. There is always a large waiting list and vacancies are filled by selection of the men which will bring to the society the most professional and ethical strength. Every member feels that membership is not a right but a privilege, and all politics in the ordinary sense of the word, is excluded.

The recent meeting in our midst was a great success both scientifically and socially. The attendance was good as it always is. One thing was achieved that is seldom seen. There were 29 papers scheduled to be read during the session. Every one of the 29 papers were read by their authors. The papers were of an unusually high class and the discussions were of unusual merit. It is a pleasure to have this array of surgical talent meet in our midst and much credit is due Dr. Alfred Brown, the chairman of the Committee of Arrangements for the smooth running, not only of the scientific program but the social features as well.

—**B. B. Davis.**

EDITORIAL PARAGRAPHS

Thirty states now have women's auxiliary state medical associations.

The annual councilor meeting is scheduled for January 9th in Omaha.

The American Medical Association will meet in Minneapolis, June 11-15.

A patient who had had some previous experience with pain relieving agents said she did not like hyanoma-dermits.

Annual dues will be delinquent January 31, 1928. Send your $8.00, plus the amount of your local society dues to your County Secretary.

The Nebraska Section American College of Surgeons will have a clinical meeting in Omaha during the early part of February, it is announced.

Chief Wilson of the bureau of health reports that 43 cases of poliomyelitis occurred in Nebraska from August to the second week in October.

Professor Schottmueller of Hamburg does not accept the theory of dental focal infections. He asserts it is unproved and insusceptible of proof.

The Omaha-Douglas County Medical Society has begun the publication of a "*Bi-Weekly Bulletin*" containing the program and other items of interest to the membership.

A companionate marriage ceremony in its legal and religious aspects differs in no wise from any marriage ceremony; in its application companionate marriage is little less than legalized prostitution.

The Lancaster County Medical Society has taken permanent quarters on the seventeenth floor of the Sharp building. An assembly room with seating capacity for 150 and a library room and lounge constitute the suite.

Dr. Frances Rothert of the Children's Bureau, Washington, is in this state making preliminary arrangements for a survey to be made by the bureau, of maternal deaths from January 1, 1927. It is intended to get complete case histories of cases of maternal death in this state as a basis for further effort at prevention.

Those who think it is a burden to pay eight or nine dollars for the privilege of membership in the Nebraska State Medical Association will be consoled with the information that the Idaho State Medical Society assesses its members sixty dollars each year. Those of us who have always thought poor Idaho, must revise our estimates.

In another state in a certain town the local druggist advertised "*Prevent Diphtheria.* It is your duty to your children. You are required to vaccinate your child against small-pox; why not go a step further and immunize your child against diphtheria. *Your physician* is *prepared.* Take your child to your physician. He is able, by a simple test, to see if your child is susceptible. If susceptible, he is prepared to immunize it against Diphtheria. Do this for your child. *Applegate's Drug Store*". Is there, in your opinion, any objection to this mode of advertising?

According to press reports the physician was held up to humiliation at the Retail Credit Men's association meeting as being the slowest to pay obligations. This is not altogether startling, for tradition has always given the physician credit for being a poor business man. A physician, as a professional man, must minister to the sick without regard to the prospects for the fee which is his due, but since he must live and pay his obligations as do other people, it behooves him to develop some business tact in collecting. A physician must be a professional man while attending his patient and a business man when collecting his bill.

DEPARTMENT OF PUBLIC WELFARE, BUREAU OF HEALTH

Diphtheria eradication campaigns have been inaugurated in Omaha, Lincoln and at least one other city. This movement is most worthy and commendable.

With 10,000 lives sacrificed needlessly from diphtheria in the United States each year (90% of these deaths occur in children under five years of age) which from an economical standpoint, irrespective of the life involved, represents on the basis of cost for treating these cases the sum of one million dollars. The total cost of immunizing these unfortunates would have been an insignificant pittance by comparison. This example of the purchasability of health cannot be ignored. In a joint conference the Bureau of Health and the State Medical Association committee on contagious diseases promulgated the following:

"Diphtheria is a dangerous, communicable disease of which we know the cause, the rapidity of its development, the high mortality when not recognized early and combatted by prompt administration of antitoxin. It is preventable by toxin-antitoxin treatment of immunization.

"The practical value of toxin-antitoxin has been conclusively demonstrated in numerous localities where diphtheria eradication campaigns have been conducted. Some cities have shown a steady decline in incidence each year as the campaign progressed. Certain cities in this group report no mortality from diphtheria.

"Similar results can be se cured in Nebraska by application of the known preventive measures providing there is concerted action upon the part of those agencies interested not only in disease prevention but in the health of our children. Diphtheria incidence and mortality is highest during childhood. There is no sound reason why diphtheria cannot be practically abolished.

"The committee in advocating the above action urges all agencies concerned to encourage and support a campaign which will carry into execution in their respective communities the slogan 'ABOLISH DIPHTHERIA'. Individual and collective action is essential. Will you help?"

The past ten years have given ample evidence of the efficiency of toxin-antitoxin. Each community is urged to participate in this constructive life-saving task where science presents the opportunity. The campaign should be conducted in cooperation with the local Board of Health. We will submit a suggestive plan if desired.

W. H. WILSON, M. D.
Chief, Bureau of Health,
Collaborating Epidemiologist.

"AT LEAST ONE OTHER CITY"

Dear Doctor Long:

A recent circular from the Bureau of Health, Department of Public Welfare, states that "Diphtheria eradication campaigns have been inaugurated in Omaha, Lincoln and AT LEAST ONE OTHER CITY".

This "one other city" is Falls City, and we feel that credit should be accorded the folks who more than a year ago started the campaign which now the Bureau of Health of the State of Nebraska is recognizing and promoting.

A year ago last October the toxin-antitoxin campaign was proposed to the Richardson County Medical Society, was endorsed and actively put into effect in Rulo, Shubert, Falls City, Humboldt and Stella. Then the Public Activities Committee of the State Association at the last January meeting of the Board of Councilors proposed that this campaign be carried over the state through the councilors who would appoint a man from each county who would form the "Councilors Auxiliary Committee on Public Activities". This has been done. And cooperation was solicited from the Bureau of Health, Department of Public Welfare.

The Bureau of Health is a year behind the times in this matter and should give credit where credit is due.

The Public Activities Committee of the State Medical Association have some big projects which they are working on and they bespeak a close cooperation with the Bureau of Public Health in working toward the common good and in carrying out altruistic measures for preventive medicine which is a real service to the public.

Respectfully,
C. P. Fordyce, M. D.

THE SOCIETIES

The **Omaha-Douglas County Medical Society,** November 8, 1927, Dr. Frank Conlin presiding.

The name of Dr. M. William Berry proposed for membership and he was unanimously elected.

The following resolution, offered by Dr. Tyler at the council meeting was read to the house for action:

WHEREAS the operation of clinical and x-ray laboratories by laymen is unscientific and leads to many errors resulting in injury to the patient as well as the attending physician

THEREFORE BE IT RESOLVED that the officers and members of the Omaha-Douglas County Medical Society go on record as unalterably opposed to the establishment and operation of clinical and x-ray laboratories by laymen in the city of Omaha.

Dr. Overgaard moved the adoption of the resolution.

After discussion by Drs. Anderson, Henry, Fouts, Sachs, Wherry and Wearne, Dr. Heagey moved that because the matter was so hazy it be laid over until the next meeting, which motion was unanimously carried.

Report on a case of Cerebellar Abscess by Dr. Ernest Kelly. Dr. Kelly outlined the symptoms, differential diagnosis and methods of making a diagnosis of this condition in a masterly fashion, and made explanatory comments as the moving pictures were shown. Dr. E. C. Henry discussed the surgical aspects of the case. (Moving pictures of the case, showing the symptoms and operation were then shown).

Discussion participated in by Drs. Lemere, Young, Davis, Keegan and Summers.

A case report by Dr. Adolph Sachs on "Agranulocytic Angina". Well illustrated by large graphic chart. (To be published in The Nebraska State Medical Journal).

Discussion by Dr. W. N. Anderson, Dr. B. W. Christy, Dr. Claude Uren and Dr. B. C. Russum.

Regular meeting of the **Omaha-Douglas County Medical Society,** held in the Medical Arts Auditorium, Tuesday night, Nov. 22, 1927, Dr. Overgaard presiding.

Dr. Overgaard presented the following resolution:

WHEREAS, The operation of clinical and x-ray laboratories by laymen is unscientific and leads to many errors resulting in injury to the patient as well as to the attending physician, therefore, be it

RESOLVED, That the officers and members of the Omaha-Douglas County Medical Society go on record as unalterably opposed to the establishment and operation of clinical and x-ray laboratories operated by laymen in the City of Omaha.

Dr. Summers asked for information and after an explanation by Dr. Overgaard, Dr. Summers moved the adoption of the resolution, and it was carried out by one dissenting vote.

Mr. L. L. Steece, Field Investigator for the Bureau of Examining Boards of the Department of Public Welfare, talked regarding his work in Omaha, and announced that at present he was prosecuting a case against Dr. C. A. Pastner, at 2004 Lake Street, who is practicing medicine without a license. This case will come to trial in Judge Crawford's Court on November 28, 1927.

The first paper on the program was "The Morphology and Clinical Significance of the Duodenum by Dr. R. Russell Best. This paper was well illustrated with lantern slides.

Dr. J. E. Summers then followed with a paper entitled "Symptomatology of Dilated Duodenum", and this paper was augmented by a case report by Dr. A. J. Henske, who detailed a case of dilated duodenum in a child with post-mortem findings, illustrating this condition in childhood similar to that discussed in adults by the two former speakers. Dr. Langdon and Dr. W. O. Bridges participated in the discussion of this subject.

The next paper of the evening was by Dr. Howard B. Hamilton, who discussed the "Undernourished Older Child". This very able paper was discussed by Dr. Wm. L. Ross and Dr. McClanahan.

The vice-president announced a meeting of the Surgical Association of the R. I. Railway at the Fontenelle Hotel, Dec. 6th and 7th and of the Western Surgical Association at the same place on the 8th and 9th of December. All doctors are cordially invited to attend.

—Earl C. Sage, Sec'y-Treas.

The **Third Councilor District Nebraska State Medical Association** meeting held at Auburn, December 15, featured a foreign clinic program as follows:

"Surgery Around the World", Dr. J. Stanley Welch, Lincoln; "European Observations of an Internist", Dr. John M. Mayhew, Lincoln; "The Vienna Eye, Ear, Nose and Throat Clinics", Dr. J. H. Judd, Beatrice; "Medical England", Dr. LeRoy Crummer, Omaha; "The Vienna Clinics", Dr. William N. Anderson, Omaha.

6:30 p. m.—Dinner at the Auburn Hotel.

7:30 p. m.—A Movie Travelogue of a Round-the-World Tour, by Dr. J. Stanley Welch, Lincoln.

At the meeting of the **Box Butte County Medical Society,** December 4, Dr. Lee Farmer, Alliance, was elected president, Dr. E. I. Whitehead, Alliance, secretary-treasurer.

At the meeting November 23 of the **Madison County Medical Society** at Norfolk, Dr. W. N. Anderson, Omaha, gave an interesting lecture on heart disease.

The **Otoe County Medical Society,** at a meeting November 15, elected Dr. D. D. Stonecypher, Nebraska City, president; Dr. J. P. Gilligan, Jr., secretary-treasurer and Dr. M. M. McVean-Edwards, delegate.

HUMAN INTEREST TALES

Dr. A. R. Courshon has located at Norfolk.

Dr. F. E. Saville, has moved from Rosalie to Winnebago.

Dr. A. E. Smith, formerly of Roseland, has located at Chadron.

Dr. O. S. O'Neill, formerly of Steele City, has located at Benson.

Dr. Lawrence Barrett, formerly of Ashton, has located in Chicago.

Dr. A. B. Tashjean, Norfolk, is spending some time visiting in New York.

Dr. Lemuel Barritt has located at Nehawka in succession to Dr. E. H. Kintner.

Dr. and Mrs. Irving C. Wood, Omaha, are spending the winter in Los Angeles.

The Sioux Valley Medical Society will meet at Sioux City, January 24 and 25.

Dr. Chas. M. Swab, Omaha, is attending ophthalmological clinics at Philadelphia.

Dr. L. C. Voss, Columbus, took a postgraduate course in Chicago in November.

Dr. and Mrs. Herbert H. Davis and family, Omaha, have returned from a year abroad.

Dr. and Mrs. A. P. Ginn, Nebraska City, have returned from a trip to Great Britain.

Dr. A. R. Kintner has left Nehawka and has become connected with the Mayo clinic.

Dr. J. L. Pennington, Thedford, underwent an operation at Grand Island in November.

Dr. A. L. Linquist, Omaha, has gone to New Mexico for the winter on account of his health.

Dr. George E. Robertson, Mitchell, and Miss Kate Schultz, Omaha, were married recently.

Dr. C. F. Zimmerman, Naper, is said to have a very elaborate collection of Indian relics.

A "Dr." C. A. Pastner, Omaha, was fined recently for practicing medicine without a license.

Dr. J. J. Bruce, formerly of Mullen, has become associated with Dr. H. R. Palmateer at Madison.

The Surgical Association of the Rock Island Lines held its annual meeting in Omaha, December 6.

Dr. A. T. Rice, pioneer resident of Beatrice, celebrated his ninety-second birthday, November 21.

The marriage of Dr. H. D. Morton, Doniphan, and Miss Lucy Leigh, Omaha, November 2, is announced.

Dr. R. G. Cressman, Hastings, has been appointed to the staff of the Hastings State Hospital as surgeon.

The marriage of Dr. A. M. Eychaner, Omaha, and Miss Elizabeth Huessner, Marlette, Mich., is announced.

Dr. E. M. Farquhar, after two years in California, has returned to Minatare where he was formerly engaged in practice.

Dr. A. D. Cloyd, Omaha, has been elected medical director of the newly organized Globe Life Insurance company of Omaha.

Dr. J. C. Iwerson, has been appointed assistant professor of pediatrics and Dr. Robert Farrell, assistant in Surgery at Creighton University College of Medicine.

An event of unusual importance occurred in the family of Dr. Earl C. Sage, well known secretary of the Omaha-Douglas County Medical society, in the arrival of a six-pound girl recently.

Dr. H. Winnett Orr, Lincoln, was guest of honor and spoke on "The Lister Method and Its Influence Upon Modern Antiseptic Treatment of Wounds, Especially of Bones and Joints", before the Boston Orthopedic Club, November 14; November 18, he spoke before the New York Academy of Medicine on "Asepsis and Rest Versus Antisepsis in the Treatment of Infected Fractures and Joint Injuries".

BOOKS RECEIVED

CANCER CONTROL, ————. Cloth. 336 pages. 10 mo. Surgical Publishing Company of Chicago. 1927.

CLINICAL CASE TAKING, by George R. Herrmann, M. D., Ph. D. Cloth. 8 mo. 85 pages. $1.50, price. C. V. Mosby Co., St. Louis. 1927.

GONOCOCCAL INFECTION IN THE MALE, by Abr. L. Wolbarst, M. D. Cloth. 10 mo. 229 pages with illustrations. $5.50. C. V. Mosby Co., St. Louis. 1927.

MINOR SURGERY, by Arthur E. Hertzler, M. D., F. A. C. S., and Victor E. Cresky, A. B., M. D., F. A. C. S. Cloth. 8 mo. 556 pages with 438 illustrations. $10.00, price. C. V. Mosby Co., St. Louis. 1927.

GETTING WELL AND STAYING WELL, by John Potts, M. D. Cloth. 8 mo. 217 pages. Price $2.00. C. V. Mosby Co., St. Louis. 1927.

AMERICAN MEDICINE AND THE PEOPLE'S HEALTH, by Harry H. Moore. Cloth. 8 mo. 623 pages. Price $5.00. D. Appleton & Company, New York. 1927.

EMERGENCIES OF A GENERAL PRACTICE, by Nathan Clarke Morse, A. B., M. D., F. A. C. S. Cloth. 8 mo. 534 pages with illustrations. C. V. Mosby Co., St. Louis. 1927.

THE DOCTOR'S ADMONITION

NOTE—This ranting rhyme is said to have been delivered in the National House of Representatives sometime by a Pennsylvania Member when the pure food law was under discussion.—Editor.

In these days of indigestion
It is oftentimes a question
As to what to eat and what to leave alone,
For each microbe and bacillus
Has a different way to kill us,
And in time they always claim us for their own.
There are germs of every kind
In any food that you may find
In the market or upon the bill of fare,
Drinking water's just as risky
As the so-called deadly whiskey,
And it's often a mistake to breathe the air.

The inviting green cucumber
Get your printer's devils number
While the green corn has a system of its own;
Though a radish seems nutritious,
It's behavior is quite vicious,
And the doctor will soon be coming to your home.
Eating lobster cooked or plain
Is only flirting with ptomaine,
While an oyster sometimes has a lot to say,
But the clams you eat in chowder
Make the angels chant the louder,
For they know that you'll be with them right away.

Take a sandwich of sliced tongue
And you're fit for Doctor Long;
Apple dumplings kill you quicker than a train,
Chew a juicy midnight 'rabbit'
And a grave you'll soon inhabit—
Ah, to eat at all is such a foolish game,
Eating huckleberry pie,

Is a pleasing way to die,
While sauerkraut brings you softening of the brain,
When you eat banana fritters
Every undertaker titters,
And the casket makers nearly go insane.

When cold storage vaults you visit
Everybody says, what is it
Makes poor mortals fill their systems with such stuff?
Now, for breakfast, prunes are dandy
If a stomach pump is handy
And the doctor can be found quite soon enough,
Eat a plate of pigs' feet knuckles
And the headstone cutter chuckles,
While the gravedigger makes a note upon his cuff,
Eat that lovely red bologna
And you'll wear a wooden kimono,
As your relatives start scrapping 'bout your stuff.

All these crazy foods one mixes
Will float you 'cross the river Styxes,
Or they'll start you climbing up the milky way,
And the meats you eat in courses
Mean a hearse and two black horses,
So before a meal you all had better pray,
Lucious grapes breed 'pendicitis,
And the juice leads to gastritis,
So there's only death to greet you either way;
And fried liver's nice, but, mind you,
Friends will soon ride slow behind you,
And the papers then will have nice things to say.

Eating liver wurscht and scrapple
Makes the sexton dust the chapel;
Preparing for that final solemn day,
When they'll bear you up the steps
To pay their last respects
And wondering what the preacher has to say.
Just a nervous little quiver
May bring cirrhosis of the liver;
The cause of it to you may be a mystery,
Eat some sauce they call it chili,
On your breast they'll place a lily
And your life on earth will then be only history.

PREPARATION OF LACTIC ACID MILK MIXTURES FOR INFANT FEEDING

The use of unsweetened exaporated milk instead of ordinary cow's milk for the preparation of lactic acid milk formulas is said by McKim Marriott, St. Louis (*Journal A. M. A.*, Sept. 10, 1927), to possess a number of advantages. Such milk has already been completely sterilized and heated sufficiently so as to insure the formation of very fine curds when the acid is added. It has a slightly lower buffer value than ordinary cow's milk because of the conversion of a part of the calcium and phosphate into the form of insoluble calcium phosphate. The fat present has been homogenized, so that it does not separate out as butter fat after the addition of acid, even though shaken or stirred. Furthermore, evaporated milk is easily obtainable and is cheap. Evaporated milk is merely whole cow's milk from which about one-half of the water has been separated. It is homogenized and sterilized. *Evaporated* milk is not to be confused with sweetened *condensed* milk, which is not sterile and which is preserved by the addition of a large amount of cane sugar. Sweetened condensed milk is entirely unsuitable for the preparation of infant feeding formulas. In using evaporated milk for the preparation of lactic acid milk formulas the usual dilution is 1:1, as evaporated milk is approximately doubly concentrated. To the half diluted milk 10 per cent by volume of Karo Syrup is added and then ten drops of lactic acid U. S. P., to each ounce of evaporated milk used in the mixture, or five drops to each ounce of the final mixture. The proportions of milk, water and sugar may be varied if desired, but the proportion between lactic acid and milk should be maintained. A preferable method of preparing the formulas and on that Marriott has generally used consists in the mixing of evaporated milk with an equal volume of an acid-sugar mixture: Karo corn syrup (brown), 90 cc. 3 ounces (6 tablespoonfuls); lactic acid, U. S. P., 5 cc. 1 teaspoonful; water to 250 cc. 1 pint. The mixture should, if possible, be kept in a cool place, but on account of its high acid content it keeps perfectly for one or two days even at ordinary temperature. In making up the feedings, equal parts of unsweetened evaporated milk and the acid-sugar solution are mixed. This is done by pouring the acid solution into the milk, which is then mixed by stirring or shaking. An entire day's feeding may be prepared at one time, or, as is often more convenient when traveling, a single small can of evaporated milk may be opened fresh for each feeding, the feeding bottle being half filled with the milk and the acid-sugar solution then poured in. The bottle then needs merely to be shaken, warmed to body temperature and is ready for feeding. The formula given is the usual one for babies during the first six or eight months. It can be varied in individual instances. The amount of sugar is decreased after cereal is taken. The formula as prepared is equivalent to whole lactic acid milk with approximately 10 per cent added sugar. The fuel value is 30 calories per ounce.

In the differentiation of acute appendicitis from pyelitis we should always think of the latter if rightsided acute abdominal pain occurs in the pregnant woman. The kidney should be palpated by grasping it gently between the two hands—the left in contact with the loin posteriorly and the right with the abdominal wall anteriorly at the same time asking the patient to take a full breath with the mouth open. This will often give valuable information. If by this means there is still doubt cystoscopic examination, with or without ureteral catheterization, will clear away the doubt.—Dr. John B. Beaver (*Boston Med. and Surg. Jour.*).

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PROGRESS OF SURGERY

HERBERT H. DAVIS, M. D.,
Omaha, Nebr.

THYROID

Thyroid tissue from an exophthalmic goiter patient was transplanted by Bogaras(1) into a cretin, aged 14. The superior thyroid artery of the transplant was sutured end to side to the common carotid artery of the recipient. Now, six months later, the cretin, from her previous apathy, is very greatly improved, her mind is good, she is growing very rapidly, pulse has increased from 65 to 90 or 100, the skin has become moist and smooth, etc. There seems no doubt that the transplant is functioning.

Richter and Zimmermann(2) find parathyroid damage occurs much more frequently than is usually supposed after goiter operations, demonstrating it in 14 per cent of their cases. In most of these the tetany is purely latent. This becomes manifest especially during pregnancy, menstruation, lactation, or infectious diseases. It appears that a fall in blood calcium is a secondary change, as this may be normal early in the disease. The treatment is to change the intestinal flora to one of the aciduric type, the administration of calcium by mouth, and Collip's active principle of the parathyroid (parathormone, Lilly). This regime, which presumably prevents absorption of toxic materials liberated in the colon from proteolytic putrefaction, consists of meat-free diet, liquids in large quantities, including at least one quart of milk daily, and lactose, 200 to 300 grams in 24 hours.

In experimental tetany in dogs, produced by excision of the thyroid and parathyroids, Werner(3) obtained relief by the oral administration of magnesium lactate. He gave 100 cc. of a 5% solution three times a day. It is suggested that magnesium, by uniting with the excess phosphorous, keeps the calcium in solution, thus keeping the calcium content of the blood serum above the tetany level. Also the sedative effect of magnesium greatly reduces the excitability of the central nervous system, whereby the more violent symptoms of tentany are held in check.

The same author(4) also used ammonium chloride orally in 100-200 cc. doses of a 5% solution. This probably exerts its action by rendering the blood more acid, thereby producing a rise in the serum calcium.

THORAX

Massive (ateleclatic) collapse of the lung may come on after an operation or trauma. The onset is often quite sudden, with pain in the chest, dyspnoea, rapid pulse and respiration, fever, etc. At first the sputum is scant, but later it becomes more profuse and muco-purulent in character. Roentgenographic examination shows dense consolidation of that lung, narrowing of that side of the chest, elevation of the diaphragm, and the heart and mediastinum drawn to the affected side. Chevalier Jackson and his coworkers have shown that reinflation follows bronchoscopic removal of mucus from the bronchi. Sante(5) has a very simple treatment consisting of merely rolling the patient on his uninvolved side and causing him to cough. He reports some cases in which he saw reinflation occur immediately under the fluoroscope. Therefore, as prophylaxis, he suggests to roll post-operative cases first on one side and then the other, having their positions changed every few hours for the first few days following operation.

GASTRO-INTESTINAL

There has been much debate as to whether gastric ulcer can become malignant, and what per cent of gastric ulcer undergo malignant degeneration. MacCarty(6) states that it is impossible to give a definite answer to either of these questions. He shows that he has been misquoted in this respect. From a series of 967 ulcers and 1353 carcinomas, he concludes:

1. "Single and multiple chronic ulcerations of the stomach occur.

2. In the case of multiple chronic ulcerations one may be carcinomatous, the rest being simple.

3. Chronic ulcers, whether simple or carcinomatous, vary greatly in size, shape and form. As a rule, most chronic gastric ulcers larger than 2.5 cm. in diameter also show carcinoma. This complication is less frequent in subacute perforating ulcers".

Gallagher(7) experimenting on the effects of application of clamps on the gastro-intestinal tract, concludes:

1. "Typical acute ulcers of the duodenal mucosa result from the application of clamps for thirty-two minutes when the pressure applied is sufficient to produce a local anemia; if continued for longer periods of time, greater destruction of tissue results.

2. Acute ulcers produced by clamps heal rapidly with the formation of scar tissue and a moderate dilatation and thinning of the wall of the duodenum at the site of the healed lesion.

3. Trauma of the duodenum produced by clamps in animals in a poor state of nutrition with a ligated pancreatic duct produces acute ulcers which show a slight delay in the time required for healing.

4. Trauma of the duodenum in dogs causes marked local and general reactions.

5. Acute ulcers of the jejunum and upper ileum produced by clamps are superficial, heal rapidly, and do not have the digested out appearance of acute ulcers observed in the duodenum.

6. The gastric mucosa and that of the large bowel are resistant to trauma from clamps.

7. From the experiments to date, it appears that in dogs mechanical pressure on the duodenum and the jejunum sufficient to stop the flow of blood in the compressed part for about thirty minutes induces typical acute ulcers, which on healing leave typical scars.

8. Trauma produced by clamps may be a contributing factor in the genesis of some forms of chronic experimental ulcers in dogs".

Whitaker(8), who, in the last few years at Harvard, has done considerable experimental work on the gallbladder, discusses the mechanism of the emptying of that organ. He considers the theories that it is due to pressure on the gallbladder by the diaphragm and liver during inspiration, to siphonage and suction of the duodenum, or to reciprocal action between the common duct sphincter and the gallbladder. He does not favor any of these theories but his work indicates emptying is due to active contraction of the gallbladder, smooth muscle. There is an increase of pressure in the gallbladder following ingestion of food. The gallbladder of a cat containing iodized oil can be observed fluoroscopically to elongate when it starts to empty, this presumably resulting from the preponderance of circular muscle fibers. He finds the musculature of the gallbladder capable of exerting considerable force.

Boyden has shown that after eating, as the gallbladder decreases in size the contents increase in density. Whitaker confirms this. He says it is conceivable that in any condition in which the gallbladder is maintained in partial collapse and refilling prevented, concentration might go on to precipitation.

Stones can be produced experimentally in animals by interference with the normal mechanism for filling and emptying the gallbladder, resulting in stasis, and overconcentration of bile. Possibly in human beings stones are produced by dietetic habits resulting in stasis.

The clinical application of this work is to combat stasis by proper dietetic habit. Do not give frequent feedings as then the gallbladder is partly emptied and the concentration of the bile greater. On the contrary he advises taking meals at long intervals which are fairly rich in fat. This empties the gallbladder in a few hours and later the gallbladder rapidly refills. Small stones and debris can be cleaned out of the gallbladder by this process. But if it contains masses too large for passage through the cystic duct, the food rich in fat will only aggravate the symptoms. Or if the wall of the gallbladder is so affected as to prevent the activity of its musculature, emptying will not occur. In these cases he advises cholecystectomy.

Hamrick's(9) experiments seem to confirm Whitaker's work that contractions of the gallbladder musculature appear to be the main factor in normal emptying. The gallbladder did not tend to empty during the fasting state.

In a rather extensive study of gallbladder cases at Leeds, Fowweather and Collinson(10) have found that generally the cholesterol is increased in the blood, bile and gallbladder wall, and calcium generally increased in the blood and bile wall, while in the bile it is decreased. They also found that, where the blood cholesteral was higher than normal before operation, the removal of the gallbladder has been followed by a marked decrease in blood cholesterol to lie within normal limits.

If the hypercholesterolemia were the primary condition, removal of the gallbladder would have no effect on it. As it comes to normal after cholecystectomy, these workers consider it secondary to gallbladder disease and have constructed the following theory. They consider that infection of the gallbladder causes enough swelling to the mucosa of the cystic duct to cause partial obstruction. The thin duct bile can enter the gallbladler and there becomes so concentrated that it cannot get out. Thus the cholesterol content of the bile is raised. Also delay in emptying may be caused by mechanical pressure by the continually enlarging uterus in pregnancy, which may account for the hypercholesterolemia of pregnancy and the large incidence of gallstones in women who have borne children.

In strawberry gallbladder there is increased cholesterol in the mucosa of the gallbladder. The authors showed that at this stage there is increased cholesterol in the bile but not in the blood, suggesting that the first stage is a deposition of cholesterol in the gallbladder mucosa, along with, and probably on account of increased bile concentration, subsequently the increased cholesterol of the gallbladder results in the passage of increased amounts of cholesterol into the blood stream. Boyd has previously demonstrated that a cholesterol laden villus may break off to form the nucleus of a gallstone. The stone then enlarges rapidly due to the supersaturation of the bile.

They think calcium in the bile is in an unstable condition, so with any infection it is deposited in the gallbladder wall or on gallstones. To explain why calcium carbonate predominates in some cases and calcium bilirubinate in others they quote the work of Wells suggesting that the presence of positively charged protein substances from inflammatory exudates leads to the precipitation of calcium bilirubinate (which is electronegative) from bile. Therefore, the formation of pigment calculi is favored or initiated by inflammation of the biliary tracts. These, also, may form nuclei on which cholesterol may be deposited.

In puppies subjected to common duct ligation, Buchbinder and Kern(11) found a progressive decrease in blood serum calcium, reaching approximately half the normal value. In three cases of human jaundice, one of which was catarrhal jaundice, one obstructive jaundice, and the other hemolytic jaundice, there was also found low serum calcium values, which approached the normal with decrease of the jaundice.

In eleven cases of pernicious anemia studied by Jones and Joyce(12), a chronic infection of the gallbladder was demonstrated. Also a small group of cases, which resembled mild pernicious anemia, possessed the same type of biliary infection, and upon its removal the patients were restored to fairly normal health.

Manipulation of the ileum of normal rabbits and dogs by Lawen(13) caused a temporary fall of blood pressure. In animals with experimental ileus of twenty-four hours duration, manipulations above the obstruction caused a greater fall in blood pressure which did not return to normal and in some of the animals caused death. The same occurred with manipulation in experimental peritonitis. Lawen thinks it due to toxins in the bowel wall being expressed into the circulation. Therefore, in these operations avoid all possible manipulation and milking of the bowel. Also, to avoid aspiration, through vomiting, of intestinal contents he advises clamping off the jejunum on starting the operation.

Experimenting on cats, Frey(14) found that the empty intestine was not more predisposed to paralysis caused by anaesthesia, operation, or peritonitis than was the full intestine. Also peristaltic exciting remedies overcame the paralysis of the empty intestine as easily as it did the full bowel. He thinks the influence of the intestinal contents in exciting peristalsis is not so great as has been thought and that the motility of the intestine is, in the main, regulated from Auerbach's plexus. The experiments remove objections to the practice of emptying the bowel as completely as possible before operations.

In dog experiments, Gatch, Trusler and Ayers(15) came to the conclusion that in acute simple obstruction of the small intestine, where the bowel wall remains intact, death is not due to toxemia, but rather to dehydration and the reduction of blood chlorides by vomiting and starvation. Hypodermoclysis of sodium chloride and water will prolong life through the period of starvation. However, in acute strangulation of the bowel, toxemia is added, and the above treatment does not prevent death from this toxemia. Unfortunately, strangulation occurs in most cases of obstruction.

It has long been known that manipulation of the intestines, merely opening the abdomen, dissection of the abdominal wall, irritation in the abdomen as in peritonitis, cause an inhibition of intestinal peristalsis. This inhibition is relieved by cutting the splanchnics, destroying the spinal cord, or removing the abdominal ganglii.

Markowitz and Campbell(16), working at the University of Toronto, find that experimental paralytic ileus in the dog is relieved by spinal anaesthesia. Wagner, in 1922, observed this result in man, a fact confirmed more recently by Asteriades.

These observations suggest that paralytic ileus is essentially a reflex inhibition and that the chemical changes which have been described in the blood are the result and not the cause of the ileus.

Duval(17) has collected the experiences in 400 cases of ileus treated by spinal anaesthesia from various French surgeons. From this study he draws the following conclusions.

1. "Spinal anaesthesia is contraindicated in acute ileus should the patient be exhausted, toxic, or collapsed.

2. Spinal is not preferable to local anaesthesia in strangulated hernia.

3. It is the method of choice in post operative ileus. It is successful in over 90% of these cases. He thinks coeliotomy should invariably follow the satisfactory evacuation of the bowels brought about by spinal anaesthesia.

4. In any form of obstruction, spinal anaesthesia, when successful, makes the subsequent operation easier for the patient and surgeon alike.

Even in ileus in peritonitis spinal anaesthesia was successful in 10 out of 18 cases.

Vernon C. David(18) presented evidence, from dog experiments, that colon bacilli pass directly into the blood stream as well as into the lymphatics from the normal peritoneum. A well developed plastic peritonitis prevents its passage into both blood stream and lymphatics. Lesser grades of peritonitis prevent its passage into the blood stream but usually do not prevent its passage into the lymphatics. Colon bacilli, injected into the peritoneum which contains a transudate, pass rapidly and in great numbers into both the chyle and blood stream. Therefore, he says, we may assume that the major problem in peritonitis does not concern itself with the development of a septicaemia.

Experimenting on rabbits and dogs, Morton(19) showed that phenolsulphonephthalein is absorbed at essentially the same rate from the inflamed and the normal peritoneum, both in mechanical and bacterial peritonitis. An exception noted was that an adhesive type of peritonitis, greatly lessening the peritoneal area, did seem to retard the rate of absorption slightly. The presence of hypertonic solution of sugar in the peritoneum did not retard the absorption of dye.

Coates and Groves(20) report three cases of intractable amoebic dysentery treated surgically with excellent results. In all three the appendix was removed and amoebae found in it, and in one the gallbladder was drained and amoebae found in the bile. In all three cases, after operation, the amoebae disappeared from the stools.

Kaufmann (21) of Montreal has been investigating the lymphatic theory of pancreatitis. Experimenting on cats by injecting streptococcus aureus into the gallbladder wall or liver he obtained hepatitis, cholecystitis and adenitis of the gland at the head of the pancreas, but no definite pancreatitis (although five were suspicious of this but could be explained on the basis of infection from the outside) never did he get a positive culture from the pancreas, while he did from other organs and the lymphatic gland. Injecting iron into the gallbladder wall and testing glands, he found iron in gland substance, but never in the pancreas. He does not agree that there is any proof of lymphatic origin of pancreatitis and his experiments tend to prove that such is not the case.

GYNECOLOGY

In the fifteen cases they were able to follow (twenty were operated), Lhermitte and Dupont(22) relieved the pain in cases of painful sclerocystic ovary or pelvic neuralgia of ovarian origin. Their treatment consisted of severing the ovarian nerves. After the operation the menses appeared normally, and one of the women became pregnant. The operation is indicated in recent cases in young women only.

UROLOGY

In postoperative retention of urine, Goldmann(23) obtained prompt results by intravenous injection of pilocarpine. He used 1 ccm. of 1 per cent pilocarpine hydrochloride. He states it is painless and without danger. However, it is contraindicated in organic disease of the heart or kidneys, and in cases in which hyperperistalsis would be contraindicated due to the type of operation performed.

Lower(24) reported a prostatectomy operation with immediate closure of the bladder. He described his method of suturing the prostatic bed and covering it with mucosa. Of course, he used an inlying catheter for urinary drainage. Also a soft rubber cigaret drain was placed in the space of Retzius for a few days.

The men discussing this paper were not very enthusiastic and pointed out the dangers.

In two cases in which nephrectomy had to be abandoned because of operative difficulties, Casper(25) ligated and divided the ureter. The upper segment he sutured to the skin so that an outlet for the urine could be quickly made in case of necessity. Both cases made a perfect recovery.

MISCELLANEOUS

The April edition of Surgery, Gynecology, and Obstetrics came in two parts. The entire second part is taken up by the study of bone sarcoma(26) by the Registry of Bone Sarcoma. Although it is not new this year, let me repeat their classification of all bone lesions.

I Metastatic tumors primary in tissues other than bone.

II Periosteal fibrosarcoma.

III Osteogenic tumors, (a) benign and (b) malignant.

IV Inflammatory lesions.

V Benign giant cell tumors.

VI Angiomata, (a) benign and (b) malignant.

VII Ewing's tumor.

VIII Myeloma.

Cutler(27) gives a complete summary and bibliography up to date of the work done on the surgical treatment of angina pectoris. From this he concludes that operations that divide the known sensory pathways in the sympathetic nervous system connecting the heart with the central nervous system give a fairly high percentage of satisfactory results. The complete Jonnesco procedure, he thinks, achieves part of its success because it interferes with a motor antonomic reflex as well as interrupts the sensory pathways. No single procedure will alleviate the pain in all cases. This cannot be explained and needs much more study.

It has previously been demonstrated that, in order to decrease the incidence of gangrene, ligation of the main artery to an extremity should be accompanied by ligation of the main vein. Holman and Edwards(28), by their animal experiments, demonstrated that the ligation of the main vein should be done, not at the level of the ligation of the artery, but proximal to the venous tributaries that accompany the arterial branches furnishing the main collateral circulation.

From Clairmont's clinic at Zurich, Switzerland, Schaefer(29) reports three cases of grave injury due to the use of surgical diathermy. Two of them occurred in abdominal conditions. Resection of the necrotic part of the intestine saved the life of one of the patients. Another died from perforation of the colon, and another probably was due to passage of a part of the current through the heart in an intervention made for empyema.

Dowman(30) reported a case of diaphragmatic tic, following eucaphalitis, cured by bilateral section of the phrenic nerve. At the first operation he sectioned one phrenic nerve and froze the other with ethyl chloride. This stopped the very rapid fluttering of the diaphragm and rapid breathing for about three weeks. As the symptoms recurred, the second phrenic nerve was sectioned, giving complete permanent cure. As freezing the phrenic nerve caused a block of only a few weeks' duration, Dowman suggests treating intractable biccups by bilateral freezing of the phrenic nerves with ethyl chloride.

Lohr(31) produced experimental permanent ischemic contractures in laboratory animals by producing simple fractures with hematomas and by replacing constricting fasciae and tense skin by elastic rubber bandages. He avoided injury to the nerves. He considers the subfascial or subcutaneous hematoma as of the utmost importance for the origin of ischemic contracture. His histologic studies showed zones of living muscle surrounding necrotic areas, suggesting that where ischemia is threatened, rapid action should be taken to restore the circulation before paralysis appears.

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THE DILATED DUODENUM*

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On a number of occasions when operating I have found a chronically dilated duodenum, rarely as a complication of duodenal ulcer adhesions, more commonly as a complication from adhesions caused by an inflammation of an infected gallbladder. Now and then the dilatation of the duodenum appeared as the only pathology present when I had expected to find an ulcer of the duodenum or an inflammation of the gallbladder. On such occasions I have either found congenital bands more or less enveloping the gallbladder or attached to an under surface of the liver and passing down, they have been found to be attached likewise to the anterior surface of the first few inches of the duodenum. This attachment to the duodenum usually does not interfere with its functioning, occasionally it kinks it so as to produce disturbing symptoms. The bands or veils as they have been called by some, resemble what we had described to us years ago as Jackson's membrane. Rilus Eastman, I think, proved them congenital, Lane describes them as a result of chronic irritation caused from stasis within the gut, and probably the firmer ones have this origin. The bands just noted are supra mesencolic. There are others submesencolic, which, with the mesenteric pedicle, cause most of the dilatations of the duodenum, with the accompanying disturbances. W. Mayo, in 1908, described a band which passed from the under surface of the meso-colon on to the first coil of the jejunum causing an angulation close to the ligament of Treitz, resulting in a wide dilatation of the duodenum. There are also veil-bands passing from the posterior peritoneum or the ascending colon, which, attaching themselves to the mesocolon, constrict the third portion of the duodenum causing its dilatation above.

A hanging right colon, especially when overloaded, may, and does sometimes obstruct the duodenum and cause its dilatation. This is more postural than snaring, and the obstruction produced is inconstant.

I do not believe that a clinical entity has as yet been evolved which can with any assurance separate the symptoms produced by a chronically dilated duodenum, from those of gastro-duodenal ulcer or infections of the gallbladder, unless it be by the x-ray.

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*Read before the Iowa-South Dakota-Nebraska Sectional Meeting of the American College of Surgeons, Sioux City, Iowa, Nov. 15, 1927.

When the x-ray with its advanced technique seems to negative pathology of a gastro-duodenal ulcer or of an infected gallbladder, then a series of x-rays may disclose a dilated duodenum.

Let me describe one case rather fully and then I will bring out briefly corroborating points in several other cases which to my mind may be helpful in differentiating the symptomatology of the chronically dilated duodenum from that of the very common pathology so frequently met with in the right upper quadrant of the abdomen.

A young lady, 22 years old, had had a chronic myocarditis for several years; she was never robust; she had had her tonsils removed, a sub mucous resection of the nasal septum done, and the nasal sinuses drained. Her appendix had also been removed. She had been seen by me off and on, with her physicians Drs. Thompson and Dunn, for an indefinite pain somewhere over the gallbladder region. This pain sometimes radiated towards her back. Her chief complaint was migraine, and when she vomited it was always bile, not undigested food. Her appetite was capricious. She was much below weight; she was nervous, i. e., temperamentally so. She was the invalid of the family; there were two normal sisters, one her twin. All resources for a positive diagnosis were again and again exhausted. It was decided that the young woman was probably suffering from a low grade infection of her gallbladder. She was operated upon by me, January 17, 1927, in the Clarkson Hospital. On exposure, the stomach and gallbladder, to my eye and touch, were normal, but the duodenum was markedly dilated by the pressure of a band in the meso-colon, which I could not divide. A duodeno-jejunostomy was done. The patient made a fine recovery, her nausea disappeared, appetite returned, and she was a new young woman. Unfortunately, two mishaps occurred: Six months later she developed progressive symptoms of an intestinal obstruction. This was taken care of by dividing a band partially encircling the upper ileum. The gallbladder was removed at the same operation, as her physicians were confident it harbored trouble. Pathological report:

"Gallbladder measures 5 cm. in length. The walls are slightly thickened. Microscopic sections show slight mononuclear infiltration of the mucosa and submucosa. Grade B. Diagnosis: Cholecystitis, chronic."

My own opinion is that this was a normal gallbladder.

More trouble occurred ten days after the last interference, when I re-operated for a most serious post-operative intestinal obstruction. However, she made a most happy recovery and is today in fine health, having gained thirty-five pounds, her nausea, headache, and nervousness are gone and she is happy.

Case 2. A young woman, age 30, a nurse, entered the University Hospital and was assigned to the neurological department, May 7, 1927. Her history showed that in 1900 she had been diagnosed as having a gastric ulcer, and had been on diet treatment for one year. Since August, 1922, she had constantly complained of anorexia, nervousness, frontal headache, nausea, and vomiting (bilious). Her appendix had been removed and this operation was followed by another for adhesions. She had had a femoral phlebitis as a complication. Present symptoms: Weight about eight-five pounds; complained of pain in the upper abdomen and back; the whole abdomen hyperaesthetic. At this time I suspected her as suffering from a chronically dilated duodenum, and said so. The x-ray report was confirmatory. It says in brief, "Good duodenal cap; second part seems spastic; third part of duodenum dilated and filled with barium". I did a duodeno-jejunostomy. The gallbladder was normal. She was in my office recently, has gained twenty-five pounds and is in excellent health. All of her symptoms have disappeared although she says her stomach disturbs her at times.

Case 3. A man, 30 years of age, a rancher, entered the University Hospital, April 30, 1927. He was thin but rugged. His history dating back, suggested a duodenal ulcer or a mild gallbladder infection. He had frequent attacks of pain in the upper abdomen and had acquired a mild but positive morphinism which was obscuring. He had headaches and vomiting. Careful laboratory tests as to gastric or duodenal ulcer or gallbladder infection, were negative, yet we believed that he had pathology in the right upper quadrant, justifying exploration. All that I found was a markedly dilated third portion of the man's duodenum, caused by a compressing mesenteric pedicle. A duodeno-jejunostomy was done. The result was extremely satisfactory: All symptoms were relieved except those pretended, until we had gotten him free from his morphine habit. Unfortunately he has drifted and we have lost touch with him.

Case 4. A young woman, a nurse in the County hospital, was a headache sufferer and had had several attacks of cholecystitis which interferred with her duties. I operated upon her August 9th, 1927. Her gallbladder looked quite normal but I removed it. It turned out to be a "strawberry" gallbladder. The third portion of her duodenum was markedly dilated by a peritoneo-meso-colic band which I divided. It was interesting to see the dilated duodenum collapse as the band was divided. The recovery of this young woman has been most satisfactory.

The literature pertaining to the dilated duodenum is confined almost exclusively to medical journals, articles written by surgeons. Only two works on Surgery in English treat at all of the subject, and then only sparingly. Pierre Duval and several collaborators have written the only worthwhile book on the subject, and it should be owned by every surgeon who reads French. Books on Internal Medicine have ignored the dilated duodenum. The Cleveland Clinic* has recently published the experiences of Doctor Crile and his colleagues in their hospital and elsewhere, and think they have arrived at a position where they declare they have data that have led them "to conclude that chronic dilatation of the duodenum is a clinical entity". Personally, I believe with Duval that a series of x-ray studies is the only reliable means of making a diagnosis, after, by the usual methods, laboratory and x-ray, we have probably been able to exclude pathology in the stomach, first part of the duodenum, the gallbladder, and the presence of a diverticulum of the duodenum. Of course, the vermiform appendix should always be given respectful consideration.

The outstanding symptoms in subjects who harbor a chronically dilated duodenum, as I analyze them, are discomfort or pain in the right upper abdominal quadrant, less often in the epigastrium, pain in the back usually radiating from the frontal locality; headache, nausea, and often vomiting. There is invariably constipation. There may be occasional attacks of diarrhea. Hartsock** has emphasized the relationship of the dilated duodenum to migraine, and reported a large number of corroborative instances. When the symptoms complained of are mostly constant there is positive loss of weight, sometimes extreme. These people who lose weight are always nervous and generally hyperesthetic.

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*Archives of Surgery, July, 1926.

The normal duodenum contains few harmful germs and its secretions and those that flow into it are intended only for passing service. A blocked duodenum is a dangerous viscus, physiologists and surgeons agree upon this, there is no dispute. Therefore, when it can be recognized it should be corrected. The duodenum in the transverse meso-colon is below the lesser cavity of the peritoneum, lies in a bed of connective tissue and is covered by a single layer of peritoneum. If a hanging right colon is the offending agent this should be tacked up by some sufficing method. I do not agree with Bloodgood, who advises and has on several occasions resected the caecum and ascending colon as the proper method of overcoming the difficulty. This is too great a hazard even in the hands of those whose experience in intestinal surgery is as great, or greater than that of this well-appreciated pathologist-surgeon.

I would like to suggest a warning in regard to the doing of a duodeno-jejunostomy. I have recently successfully operated upon a case of complete acute block of the duodenum lasting ten days (an unique instance), and upon another of a partial block. In these instances the cause of the block was, in the first patient, a recent gastro-jejunostomy; in the second, the anastomosis had been made some months before. Another partial block was of a chronic nature. (These cases will be the subject of a special paper). When the transverse meso-colon is loaded with fat and the subject has a heavy abdominal wall, it may be difficult to expose the duodenum and release it sufficiently to bring it into a position in which a safe technique of a duodeno-jejunostomy is practicable. In such an instance it may be wise to resort to the next best procedure, a gastro-jejunostomy. In a recent instance of this kind my patient died several days after being operated upon, and the autopsy disclosed an acute pancreatitis. There was fat necrosis in the omentum and the head of the pancreas was commencing to break down. Although the pancreas was exposed when freeing the duodenum I was not aware of any traumatism to it, palpating it carefully and pointing it out to my assistants as a healthy organ.

Again we must remember that the duodenum is not always situated as described in our anatomies. The loop may be found at the second lumbar vertebra, sometimes at the fifth, and its position will influence its motility and the ease with which it can be manipulated. Medical treatment of the dilated duodenum is, of course, of value. Diet, the duodenal tube, calomel and saline laxatives, the abdominal belt, posture, knee chest, (the foot of the bed raised) when the colon is at fault, all may be helpful. The recumbent position and the hypnotic hot pack have no place in the treatment of the dilated duodenum. Physicians should give this subject more attention. The pathology is not very uncommon, a reasonably safe symptomatology may be worked out, and its relief by surgery is satisfying when other known means have failed.

**J. A. M. A., Oct. 29, 1927.

MANAGEMENT OF DIABETES MELLITUS AND SOME OF ITS COMMON COMPLICATIONS

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During the past five years there seems to have occurred a renewal of interest in diabetes, due in all probability to the introduction of insulin which has proven of undoubted value in its treatment. In a survey of the literature one is impressed with the seemingly diverse ways in which successful treatment of diabetes has been accomplished. There is, however, a general agreement among authorities that some form of dietetic management is still the most important single factor at our disposal. The advent of insulin has in no way displaced the dietetic control of diabetes, in fact it has re-emphasized the importance of diet. In certain instances the diet has been made more liberal, especially is this true in juvenile diabetes. In contrast to the extremely bad prognosis warranted in the past, it is just as unusual for a child to die of diabetes today as it was for one to get well a few years ago. The treatment of adult and juvenile diabetes is essentially the same except that treatment is more urgent amongst children.

With the exception of insulin, drug therapy in diabetes may well be relegated to the background. Of the various dietary systems in use at the present time, the method of Woodyatt is perhaps the one of choice. It is based on the assumption that there exists a definite quantitative relationship between total carbohydrate utilized and the amount of fat completely burned at the same time. When the ratio between the total higher fatty acids and the total available glucose does not exceed 1.5 to 1, the ketogenic substances can be completely burned and acidosis will not result. A marked departure from this ratio ultimately results in incomplete fat combustion and subsequent acidosis.

In an ordinary case of uncomplicated diabetes, the patient is at once placed on a diet consisting of his basal caloric requirements, (Chart No. 1), which is estimated on the basis of his ideal weight(1). According to Benedict, the basal caloric requirements should not exceed 30 calories per kilogram of body weight. The diet is constructed according to the ketogenic anti-ketogenic ratio as follows: One gram of protein is allowed for each kilogram of body weight, and after subtracting the caloric value of the protein from the total calories allowed per day, the remaining calories are divided in the ratio of 2.5 grams of fat to 1 gram of carbohydrate. This gives a ratio between total higher fatty acids and total available glucose of 1.5 to 1.

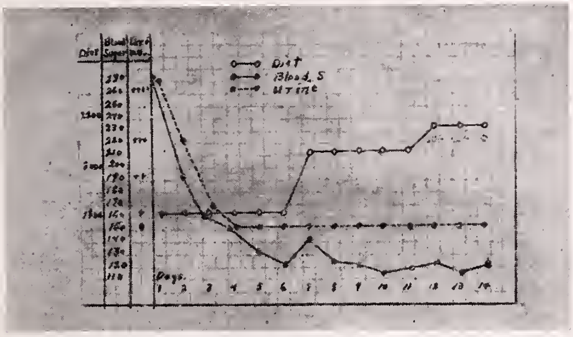

Chart No. 1. A case of mild uncomplicated diabetes in a female 34 years of age. On a basal diet this patient had a normal blood sugar concentration and voided a sugar free urine on the fifth day. In spite of the increase in diet there was no return of glycosuria. Time of observation was 14 days.

On a basal diet the patient should void a sugar free urine in from two to five days, depending on the severity of the case. (Chart No. 1). If, at the end of two to four days, the glycosuria has disappeared and the blood sugar concentration has reached the normal level, the diet may be increased from 200 to 400 calories every fourth day until the tolerance limit is reached, or until the patient is taking a maintenance diet(2).

The patient's tolerance limit is determined by the daily quantitative analysis of the urine for sugar, and the bi-daily estimation of the blood sugar level. Should it be found that the patient is unable to utilize a maintenance diet, the question of giving insulin naturally arises(3). If the patient's activities can be curtailed to such an extent that it will not interfere materially with his efficiency while taking a diet within his own utilization limits, insulin may not be required. Often a reduction in weight will render such a patient capable of utilizing a maintenance diet unaided by insulin. If sugar continues to be excreted in the urine, or if the blood sugar remains above the normal level after the first week on a basal diet the use of insulin is indicated(4). The dose of insulin should be that amount on which the patient can take from 800 to 1000 calories above his basal requirements and be free from glycosuria and ketonuria and have a fasting blood sugar concentration not over 150 mg. per 100 cc.(2). In determining the dosage it is a fairly safe plan to administer one unit of insulin for each two grams of glucose excreted in the 24 hour urine. In addition to this, one unit is administered for each two grams of total available glucose added to the diet. Occasionally one encounters a patient in whom the giving of insulin by this method either exceeds or is below the required amount(5). For such patients one may begin with small doses and increase progressively until the required dosage has been estimated(6).

Experience has demonstrated that the blood sugar concentration is highest in the morning in the majority of diabetics under insulin treatment(7). Patients may become glycosuric and hyperglycemic at night after the effects of insulin have ceased. For this reason it is advisable to examine a number of specimens of urine during the 24 hours to determine when the glycosuria occurs. As a rule the largest dose of insulin is given before breakfast in the morning, a small dose before the noon-day meal, and a moderate dose before the evening meal(4-7). In severe forms of diabetes a mid-night dose of insulin is occasionally required. Often only two doses daily are required, and sometimes one dose is sufficient. According to Joslyn a patient who requires 60 units of insulin or more daily is said to be a total diabetic, that is, one in whom the carbohydrate tolerance is zero.

Physiologically insulin aids in the storage of glycogen in the various depots of the body apparently in a normal manner. It increases the utilization of glucose by the tissues and causes acidosis to disappear by favoring normal oxidation in the body. It relieves the defective pancreas of overwork and thus enables it to recuperate(8).

Insulin may be given in relatively large doses without producing untoward effects, if sufficient glucose is available in the tissues to provide an adequate buffer. The symptoms of hypoglycemic shock disappear almost instantly after the administration of glucose either by mouth or intravenously. This would indicate that the drug is not particularly toxic, since there are few if any drugs whose toxic action can be neutralized so readily. The author administered a total of 520 units of insulin within a period of 36 hours, to a patient in coma, with favorable results.

Several factors, notably gangrene, infections and surgical emergencies effect the metabolism unfavorably in the diabetic and predispose him to acidosis. Any complication, whatever the nature, always increases the severity of the disease. The preparation of a diabetic for operation demands the same careful management one employs in the treatment of severe acidosis. Surgical skill and the selection of a suitable anesthetic are factors of importance, but are only secondary in comparison to the medical supervision of the patient(9).

The pre-operative management of a diabetic consists in allowing him a diet containing at least 100 grams of carbohydrate per day for two to four days, and sufficient insulin to secure its complete utilization in the body. (Charts No. 2-3). In addition, not less than two liters of fluid are given daily. This procedure insures the storage of glycogen in the various depots of the body which acts as a reserve to tide the patient over a critical period both during the operation and for the first few hours following(10). It causes the complete oxidation of acid bodies, hence the uselessness of alkalies. With an adequate glucose reserve and with freedom from acidosis, the diabetic patient is no greater operative risk than the non-diabetic, other factors being equal.

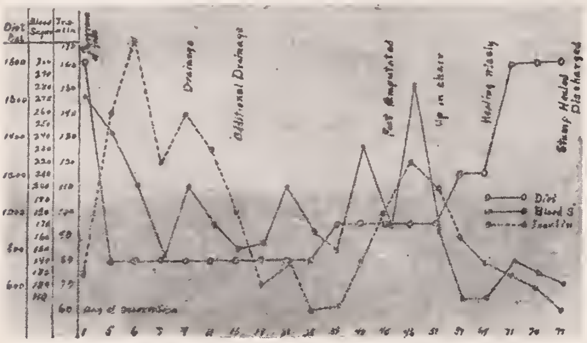

Chart No. 2. Mrs. M. K., age 40. Moderately severe case of diabetes complicated with obesity and gangrene of the foot. The low caloric intake during the early weeks of treatment consisted chiefly of protein and carbohydrate. Up to the 57th day of observation there had been a loss of 20 pounds in weight due in part to the patient's refusal to take more food. At the time of discharge from the hospital she was taking a maintenance diet and required 60 units of insulin daily. Two months later on the same diet the insulin requirements had been reduced to 15 units daily. Time of observation 77 days.

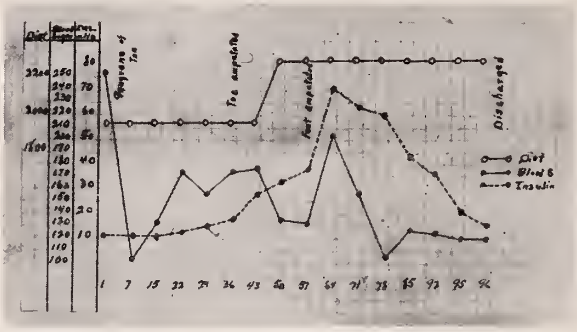

Chart No. 3. A mild case of diabetes in a male age 44, complicated with gangrene of the toe and pulmonary tuberculosis. Because of the pulmonary infection the diet was kept above his maintenance requirements from the beginning and sufficient insulin given to secure its complete utilization. Note the progressive improvement following amputation of the foot. This patient was under observation for a period of 96 days.

On the day of the operation and up to within three hours before, simple foods such as glucose solution or orange juice should be given, and insulin should be administered according to the quantity of carbohydrate allowed(11). After the operation the patient should receive at least one liter of fluid during the first eight hours. Fluid may be given by mouth if the patient retains it, or if not otherwise contraindicated(12). Glucose is given by any avenue available and in sufficient quantities to control acidosis(13).

Insulin, as well as cardiac, stimulants are given when indicated by a high blood sugar concentration or circulatory embarrassment. As convalescene becomes established the diet is gradually changed from fluids to the same diet the patient was taking before operation, provided there are no contraindications. The pre- and post-operative treatment of a diabetic as just outlined, has not only reduced the post-operative complications, but has very favorably influenced the incidence of surgical mortality.

In the presence of a localized infection, adequate drainage should be established as soon as possible(14). It is difficult to prevent the occurrence of acidosis so long as absorption of toxins from an undrained focus is permitted(15). Should a patient suffering from gangrene of an extremity require constantly increasing doses of insulin while on a fixed diet, it is a good indication that he is absorbing toxins from an infected area, and that surgical drainage should be established. (Chart No. 2). A gangrenous area often heals kindly under insulin treatment and proper surgical care, especially in younger subjects(16). After a reasonably short time, if there are no indications of improvement, the underlying bony structures should be examined by means of the x-ray. If the bone is found to be extensively involved a competent surgeon should be summoned and the advisability of amputation considered.

Inasmuch as diabetes is a chronic, and up to the present time, incurable disease, the success in its treatment depends on the intelligent cooperation of the patient with reference to his diet, as much as it depends on the skill of the physician. It is, therefore, important for the patient or a member of his household to master the essential principles of diet. He should be taught the percentage value of the commoner foods as well as their caloric value. He should know how to arrange a diet for himself that will fit his own needs according to the ketogenic-antiketogenic ratio. If insulin be required, he should know how to administer the drug without infecting himself. The examination of the urine for sugar is likewise important for the patient to master, since often by this simple procedure alone is he able to appreciate the danger signals or check his dietetic errors. The degree of a diabetic's efficiency, as a rule, may be said to be merely a measure of his intelligence and his willingesss to cooperate with his physician.

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—603 City National Bank Building.

SOCIAL ASPECTS OF MEDICINE*

H. VON W. SCHULTE, M. D.,

Dean of the Creighton University Medical School, Chairman Municipal Affairs Committee of the Omaha-Douglas County Medical Society.

As the result of several decades of unparalleled advance in medical discovery and in the application of science to the problems of health and disease the medical profession in the United States finds itself remarkably potent in its special field, able to render service more efficient than ever before, ready even to contemplate the control and ultimate eradication of some of the plagues which have afflicted mankind throughout the historic period.

Success is evidenced further by parasitism and the pullulation of cults in America is an unlovely testimonial to the progress of medicine, for these, while always related to deficiencies in the medical practice of a period, still flourish and increase most when medicine is strongest.

The particular defects which the cults seem to criticise today are some loss of warmth in the relation of patient and physician, and the burdensome costs of administration of modern methods of diagnosis and treatment.

The sacredness of the relation between doctor and patient is today oftener on the lips of the physician than of the patient. Many people take umbrage at the doctor's professionalism, his aloofness from the general community movement, his failure to appreciate the beauties of advertising, his tendency to express himself in language not understanded of the people, and worse than all his assumption of a superiority of attitude which I am told characterizes even premedical students in the eyes of their fellows. To these defects of his virtues may perhaps be added that many a doctor preoccupied with the physiological problems of his patient forgets that this patient seems to himself to be an intellectual and social being and is indignant at a seeming disregard of his status and personal interest in his malady.

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*Paper read at the annual meeting of the Omaha-Douglas County Medical Society, December 13, 1927.

The cultist never forgets that his patient is a person; shows a ready interest in his concerns, knows how to inspire confidence and allay those fears which constitute so large a part of the psychic reaction to disease and finally represents his services as less costly than those of a regular practitioner.

Here it must be recognized that he has capitalized a major cause of discontent with present day practice. It is expensive to live for doctor as well as for patient and the doctor's expenses in rendering service make his charges high, though it is doubtful if he has increased them as much or as rapidly as prices have advanced in other lines.

That the scale of charges, irrespective of their amount, are not always reasonable but are still to some extent influenced by unscientific habits of thought prevailing among the people may be illustrated by a comparison of the fees for delivery and for the removal of tonsils, the expectation of a lower rate for children than for adults and the smaller appreciation of internal medicine as against surgery, a veritable fount of evil in American practice.

The dramatic element in surgery, the rapid transition from prostration to recovery, cannot but be impressive, while the slower and less striking methods of the internist often leave the slumbering question whether that patient has really been cured or has merely recovered, to awake to indignation under the shock of a substantial bill.

As regards the care of children I think it can hardly be doubted that the socialization of education tends to diminish parental responsibility in general and in particular engenders a willingness to evade financial expense for the children's health.

All that it is intended to argue at this point is that there is a degree of mal-adjustment between medical thought and public opinion, which carries on both sides a perceptible emotional load and on the side of the public at least a desire for action.

It is vital for us, if we are to meet the exigencies of the hour, that we should realize that the public is learning to formulate its desires definitely. Under the urge of national organizations, medical, lay and mixed, the public is more and more articulately demanding health, and the great insurance companies are increasingly demonstrating their ability to meet this demand at a low cost by mass methods. *"Salus populi suprema lex"*. The cause of the profession is lost and its reputation smirched if it ever maneuvers itself into the position of opposing the public good from motives of self-interest.

If organized medicine were to take in imagination a total responsibility for the nation's health it would be assuming control of a public utility involving the expenditure of well over a billion dollars a year. The average loss of working time for each person because of illness is one week per year and the per capita loss of wages from this cause is about $12.00, the per capita expenditure for medical care of all sorts about $10.00.

Applying this last time to Omaha our resources for medical purposes would be $2,150,000.00 annually. This would have to defray the expenses of our hospitals, health departments, offices, automobiles, our laboratories, nurses and clinics and leave something over for the cost of handling prescriptions at those curious institutions called drug stores, where medicines among other things are dispensed. In addition the city would sustain a loss of earning capacity of $12.00 per caput, making a total cost of disease upwards of $4,700,000,00 per annum.

Assuming that there are 500 doctors in Omaha the mean number of clients for each would be 430; at $10.00 per year per person his budget would be $4,300.00. The average worker's income as announced by Secretary Hoover for last year, an unusually good year for business, was $1280.00 but what more really concerns us is the per capita income for Nebraska which is $491.00. On this basis 430 persons would have an income of $210,130.00; 2 per cent of this for health would yield a little less than $4,300.00. If hospitalization, nursing and medicines come out of this sum it follows logically that most of us died some time ago of starvation.

Turning from these statistical impossibilities it may chasten us to consider briefly the degree to which present administration of our task fails of perfection.

Mr. Dublin's statistics assign 33 per cent of our annual deaths to preventable causes; for example we still have 15,000 annual deaths from diphtheria, a preventable, perhaps an eradicable disease. Turning to our immediate environment a national health weekly a year ago carried the statement that Omaha has made no progress in public health for 25 years. Of course, this is not literally true, but it does no permanent harm occasionally to view ourselves with other's eyes. We know we have not adequate hospital facilities for the insane, the tuberculous or for the care of venereal disease. The U. S. Public Health Service inspected us in 1923 and told the world that we were neglecting public education in health, mental hygiene and industrial hygiene; that we were subnormal in the number of school and visiting nurses, pasteurized only 50 per cent of our milk and that our reporting of some of the communicable diseases was incomplete.

So if any of us feel that we are underpaid we have also to recognize, always assuming that we have a collective responsibility, that our work is incompletely performed.

Leaving this item in an admittedly inchoate state and still imagining our profession assuming full responsibility for health it may be profitable to turn our minds to financial ways and means of raising our budget, which all will concede we should earn, if we are not to be subsidized and so brought under control of the state or other subsidizing body.

Our sole instrumentality is the professional fee: we have vindicated our right to increase this to the wealthy patient by our services to the poor. Ten to fifteen per cent of our urban population in the United States obtain free dispensary service. This is estimated to be 20-25 per cent of those seeking medical aid. At 15 per cent, 32,250 names should stand on the books of our dispensaries. Both dispensaries clear through the confidential exchange maintained by the Community Chest and supervised by the Council of Social Agencies and quite accurate statistics could be obtained. Unhappily the inadequate support of the chest has not justified expenditude for statistical studies of late years. National statistics would, however, indicate that of the 430 patients of each of our 500 physicians a quarter or precisely 107.5 must be treated free and the other 323.5 must pay the total bill, either in fees to the individual doctor or by subvention of the institutions in which he works. The latter method is socialistic and if adopted, destroys something of the personal patient-doctor relationship and puts the profession as a whole partially under the control of society or social institutions.

Socialism, which means many things beside the state control of means of production, is both widely feared and widely practiced today. We live in its atmosphere as little conscious of it for the most part as of the air that we breathe. Yet, our schools, our highways, our municipally owned utilities, our health department, our hospitals our welfare work, our national health associations, our insurance companies, even the Omaha-Douglas County Medical Society itself are all definitely socialistic in that they substitute collective thought, action and sometimes financing for purely individualistic methods. To some extent we doctors are beginning to appear as belated individualists in an organized and highly socialized community.

It is but natural, with our traditions, our fine record for altruism, our avowed intention of placing service before personal gain to feel some consternation at the advance of collective medicine, some disposition to indignant criticism of programs which we feel show little respect for what we regard as our vested rights. But have we not really been too aloof from the public which we serve, too much absorbed in the busy details of our work to note that leadership is passing from us and that new times demand new methods and new attitudes?

Mere querulousness, captious criticism and obstruction will not enhance our credit nor atone for our neglect of our corporate organizations, our forgetfullness of our duty to educate the public, our lukewarmness to the periodic health examination, our willingness to leave preventive medicine except for occasional spasmodic activity out of our practice and out of our meetings.

There is some general feeling for example that our dispensaries menace the income of some of our doctors by caring for those able to pay in large numbers. Both dispensaries maintain social workers and turn away those who have no right to free service. My own impression is that there is far less abuse than generally believed, while some mistakes must be assumed to occur, that they are not many; and that very few doctors would really care to have in their offices patients who could not pay a dollar a visit, or if they had them would feel that they could give them thorough care, which they need as much as if more happily situated. It will be replied that the dispensaries are interested in increasing their attendance, indeed, Dr. Lindsey R. Williams deliberately makes this statement, and it is plausible enough in view of the fact that the A. M. A., considers a daily attendance of 100 as one of the ten points in its standardization of medical schools. But an organized profession can control its own committees: if they really operate to increase pauperization and rob the members who support them, redress should be obtainable. I reiterate that here I believe there is more smoke than fire and that the best defense of the profession is the social worker. It would be a beginning of a better understanding if the society should concern itself more with the social agencies, governmental and volunteer, and from time to time allot a meeting to the study of environment in which we work and live.

To the writer it seems that this environment is changing rapidly and that we in it are changed more than we realize. We shall hardly stay these movements; we may yet lead them, be associated with their leadership, or be dragged helplessly in their wake.

A major question is, have we yet time, have we the power: In 1906 when the administration was endeavoring to pass a pure food bill the American Medical Association went into action.

"Dr. Charles A. L. Reed of Cincinnati, Chairman of the Association's Legislative 'Council, told Aldrich he had back of him some 135,000 physicians, all organized locally into about 2,000 county units, each member instructed not only to act himself but to ask his patients and friends to bring pressure on the Senate." (Mark Sullivan, Our Times, Vol. II, p 533.)

It is history that the Pure Food Bill passed, but it is pertinent to ask, if we have such an organization as Dr. Reed described: are we sure of those 2,000 county units, of our own especially. Have we the solidarity to face our problems in common, do we constantly study the needs of our community together, are we ready to act together? If we are we have gone a long way from the traditional aloofness and individualism of the doctor. If we have not we must face the future without the strength that comes of union.

That future seems to offer us some alternatives. We may contemplate state socialism under bureaucratic administration, which is always a tendency of urbanization, and take our lot with the others under this economic system; or we may be accelerated into socialism, and state medicine may antecede the socialization of industry; or public health insurance may be the next move; finally we may ourselves appraise the public needs and demands and ourselves devise a superior program.

We might begin by finding place in our meetings for consideration of allied fields of endeavor, for more articles on public health, preventive medicine and medical sociology. We might train ourselves more in the periodic health examination and its corollary the treatment of very minor ills. The Public Health Service asks for three health examinations of every child during its school period; at least one Nebraska County Society is engaging in this service. It is a form of education of almost as much importance to the profession as to society, for there is little doubt that we are to become hygienists as well as therapeutists and this preventive service will become a major function of the profession in days to come. We might, through appropriate committees, survey the health and medical needs of our community and make it our fixed policy to be the first to point the need, prescribe its cure and become the most forceful advocates of the movement for progress. Finally we might bethink ourselves of the ancient meaning of our title—doctor means teacher—and the instruction of the public is as advantageous for us as it is emphatically our duty.

The rest we may leave on the knees of the gods confident that solidarity will be achieved only by working together for the welfare of all, within and without the profession.

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THE MEDICAL MAN IS THE MOST LIBERAL PHILANTHROPIST IN THE WORLD*

EARL C. SAGE, M. D.,
Omaha, Nebr.

The statistics on the separate sheet give you some idea of how the hospitals and doctors take care of their social obligations to the community.

The foregoing statements are offered in the nature of proof that the medical profession as a group of citizens have dealt generously and fairly with the two groups to which it is under obligation, namely; that group which, through the ages, have made medicine and handed it down to be forever free, and that living group in need of its benefits.

There are indications that the time is approaching when the public must be called on to answer whether it is dealing fairly with the profession of medicine. A generous public has put in motion sociologic movements and promoted organizations for social services which in many instances have placed the profession entirely in the background and been none too considerate of its rights.

A group of individuals prompted by the best of motives will organize for a social service. The organization will be financed by public subscription, endowment or by state subsidy. The doctor will donate his services. It seems that he is expected to. It is the declared intention of those in charge to render a needed service to the indigent. Thus it starts, and from that noble beginning it grows. In time the persons in charge admit those to free service who can in all justice pay for all such service, who have no right to become public wards and who above all should not be encouraged to become public wards. There are now people who will accept free medical service without a blush who would feel not only mortified but seriously offended if some similar charity organization were to leave a sack of meal on their doorstep, or a pair of shoes for the baby.

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*Paper offered as discussion in the City Health Problem before the Council of Social Agencies, Omaha, December 12, 1927.

By this practice of organizations a false attitude is being developed. Free professional services are available to the public in some cases without questioning. It has been said that those in charge feel compelled to make reports of larger activities. This means a statistical report of the number served without any definite analysis of the conditions of those who accepted the service. The criterion of usefulness of such an organization or unit seems to be a statement of the number served.

Indigency is difficult of definition. No sociologist has made a practical definition, nor has one written a satisfactory set of rules that will apply. Individual opinion governs. It is a good principle to let the poor man pay according to his means. To pay what he can is a satisfaction to the honest, independent man, and it is sound socially, because it preserves his self-respect.

Doctors do charity gladly. They would not conform to ethical requirements if they did not. They are objecting, and have a right to object, to the inroads of various organizations into the domains of legitimate private practice.

No one will seriously question the fact that the poor should have proper medical care and treatment. But this is an obligation that should fall squarely on the shoulders of the entire community, not only to the doctors. The poor also require food; but what would the corner grocer have to say if he individually were asked to supply it? The grocer will sell his goods to the community for distribution among the poor; it is just as fair that the doctor should sell, not give, his professional services to the authorities whose duty it is to take care of the indigent and needy.

According to an authentic report issued by the American Medical Association, there were about 4,000 dispensaries in the United States in 1922. In these institutions there were treated during one year no less than 8,000,000 patients, who made a total of approximately 29,500,000 visits.

Assuming that each dispensary visit would call for the average minimal charge of two dollars, the value of the gratuitous medical service given at the dispensaries during this one year was $80,000,000. Apportioned among the 150,000 physicians of the country, these figures would indicate an average annual loss of almost $400 to each individual doctor as a result of free dispensary service.

It is difficult to believe that there are 8,000,000 persons in the United States so poor that they cannot afford to pay the minimal medical fee. It is hard to reconcile this conclusion with the everyday observation that many patients come to the clinics in fur coats and other fineries, that many drive up in taxicabs, and that there is usually a parking place around the corner for those patients who come in their own cars.

The person of means who takes advantage of a free clinic never for a moment realizes he is perpetrating a fraud on the doctor. He believes that some public spirited committee, perhaps Uncle Sam himself, pays the physician liberally for the time that he spends at the dispensary; but the truth of the matter is that the doctor receives nary a penny for his work and the wear and tear on his motor-car.

Many doctors devote considerable time and effort to work done without compensation, in service rendered the poor in hospitals and clinics. One estimate places the amount of time given to such work as 1-6 of the doctor's working hours.

The question is then "should these problems be brought into the open and met intelligently and fairly in a broad-minded way, or shall they be allowed to go quietly on to whatever destiny that awaits?"

I like doctors. They are so gentle, so patient, so kind. Their self-sacrifice is God-like; their sense of honor is divine.

I like doctors. They have the touch of an angel, the sympathy of a saint, the wisdom of Job. They have an undying devotion to duty, a kingly forgetfulness of self, and a masterly influence upon their fellow-beings.

I like doctors. They are heroes, beloved and venerated. Of all men, they are the most perfect approach to saint-hood incarnate.

But did you ever notice the perfectly hellish glint in their eyes when they swab your tonsils?

—An Im-patient.

"Many a man thinks he has an open mind when its merely vacant."

SOME PEDIATRIC PROBLEMS*

W. O. COLBURN, M. D.,
Lincoln, Nebraska.

In response to your invitation to speak here today, I will not confine my remarks to any one particular subject, but shall try and present several that I believe will be more or less practical to men engaged in general practice, as I assume most of you are.

Permit me to call your attention to some of the mortality figures we have in the first year of life, the most dangerous period of our human existence. Out of every 1,000 deaths which took place in the United States in 1922, 144 were of infants under one year of age, and only three occurred in children at any age between the 10th and 14th years. One-fifth of the total deaths in the United States are in children under five years, but only one-fifteenth in children from 5 to 10 years. Let us take similar figures in a different setting; 20% of deaths occur in infants before they are 24 hours old; 38% in the first week of life and 51% in the first month of life. This leaves 49% to be divided over the remaining 11 months of this first year of life. If you forget these figures, or their significance, just remember this one statement I am about to make: For every death in a breast fed child, five deaths occur in artificially fed children. This has been common knowledge to all physicians for many years, yet the majority of artificially fed infants have been taken off the breast by their physicians. Breast feeding is simplicity, why substitute for it complicated artificial formulae.

The late Dr. Sedgwick, by organized effort, succeeded in breast feeding 90% of the infants born in Minneapolis for a period of three months and 84% for a period of 6 months. Other pediatrists have duplicated this effort in many of our cities.

Of the deaths in early infancy about 1/7 are caused by birth injury and congenital debility and I especially wish to direct your attention to one particular condition that contributes heavily to this classification, namely:

INTRA-CRANIAL HEMORRHAGE OF THE NEW-BORN

Many contributions to the literature have appeared in the past three or four years and it should be easily recognized and treatment administered. Any newborn baby refusing to nurse, showing varying degrees of stupor, respiratory difficulties, muscular twitchings, even to convulsive seizures, attacks of cyanosis, any one, or all of these symptoms should justify a lumbar or cistern puncture for relief of pressure. Every general practitioner is capable of acquiring the technique of at least a lumbar puncture. This method is life saving in many instances but almost better than this, it prevents the spastic paraplegias, cases of Little's Disease and the accompanying mental debility that we too frequently see. Little, himself, stated that he believed 75% of the cases of cerebral spastic paralysis were due to an intracranial hemorrhage at the time of birth. A blood clotting and bleeding time should be determined and if abnormally prolonged, at least 20 c.c. of blood from the mother should be given subcutaneously to the baby. Sharpe of New York, makes the statement that 9% of all newborns have intracranial hemorrhage, so you men in general work have the opportunity to help decrease the heavy mortality rate in the first week of life and also to decrease the cripples, and mental deficiency cases arising from this form of birth injury.

DIARRHOEAS

We have been recently informed that many diarrhoeas are the result of parenteral infections. These do not respond to the usual therapeutic measures, but one is often rewarded by a careful search of the upper respiratory tract, and not infrequently an unsuspected mastoiditis, surgically treated; saves the patient. I and my co-workers have been fortunate enough to recognize a few of these and to have our patients recover, but only after having had the sad experience of finding infected mastoids at post mortem in two of our patients. Diarrhoeas, particularly in winter, associated with upper respiratory infections and running high temperatures, should direct ones attention to the mastoid sinus.

THYMUS GLAND

No doubt all of you can recall a sudden death in a baby with an unaccountable cause. Many of these may be thymic deaths. I recall a recent incident where the matron of an institution called me telling how well a certain baby had done on a diet that I had outlined for it several months ago. The baby died suddenly that very day and at necropsy a large thymus was found. Every baby with a history of a cold, dyspnoea, or stridor since or near birth, should be rayed to determine the condition of the thymus gland. This condition is not uncommon and is easily treated by x-ray therapy.

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*Elaborated from notes of a talk made before the 7th Councilor District of the Nebraska State Medical Association at Superior, Nebraska, Nov. 3, 1927.

ECZEMAS AND ASTHMAS

Protein sensitization or so-called allergy seemed to have attained a popularity and then waned. We might say we have a dromedary curve as we are on the second rise of popularity. First we expected great things, now allergists promise 30% results, with a possible 40% or more as applied to children. With my short experience in this special field I have had some miraculous results in eczemas; milk, egg and wheat being the most frequent reactors.

In asthmas, pollens are by far the leading reactors; epidermals probably second, with foods and bacteria claiming a small share. Progress in allergy is evident when I say to you that my attention has been called to three very recent articles, one, "Skin tests in diarrhoeas of unestablished etiology in children". Another regarding experimental work in the diagnosis of intestinal parasites by skin tests and third, physical allergy, atmospheric changes, heat and cold, especially the latter, being a factor in many eczemas. So-called allergic manifestations in the simple skin tests seems about to stage a comeback of considerable usefulness in many fields of medicine. While on the subject of allergy, all of you administer horse serum not infrequently, such as antitoxin, antitetanic serum and others. Many of you have experienced reactions in the form of urticarias, angioneurotic edemas and asthma and if you have been unfortunate enough to have had a very severe reaction you may now be discrediting antitoxin and all therapeutic horse serums. About two years ago I had a patient in a prominent family, to whom I had given 1500 units antitetanic serum. Exactly one week following the injection, the patient had a general urticaria, rapidly followed by a generalized angioneurotic edema, until my patient was about twice his normal size. I had given him a few hypodermics of adrenalin with transient relief. The parents showed much concern and I must confess that I, too, was worried. I called Dr. Duke of Kansas City by long distance telephone and asked him how much adrenalin I might give a patient in this condition. His reply was to give ½ to 1 c.c. of 1:1000 adrenalin chloride every 5 minutes until patient was relieved and when trouble returned to repeat in the same manner. I asked the nurse to proceed accordingly and she gave ½ c.c. every 5 minutes for 6 doses and the patient was completely relieved for four or five hours, then she gave 4 more doses and the patient was well. Since that time we have had three other similar cases with like results. Dr. Duke told me that it would be safe to administer 1 oz. of adrenalin in 24 hours if patient required that amount for relief. This is something every physician should know and I have been broadcasting this at every opportunity afforded me. It is possible that ephedrin may be more useful in these anaphylactic reactions than adrenalin, due to the lasting effect over the transient adrenalin.

INFANT FEEDING

I notice that we still have a few, I mean a very few, physicians that tell the mothers to buy a package of patent infant food and to follow the directions on the can or bottle. No one food, or no one method of feeding, will take care of every baby, but it must be conceded that cows milk is the best food we have aside from breast milk. It was Marriott of St. Louis, that worked out the chemistry of infant feeding. Only a few years ago we fed top milk or high fat mixtures, thinking that protein was very difficult of digestion, then the chemist found that the phosphates and caseinates, known as buffer substances, bound up a large proportion of the hydrochloric acid of the gastric juice, leaving very little to perform the other important functions. It was, therefore, found that neutralizing these substances before ingestion by acidifying the milk, made the digestion of protein simple. Yesterday, we alkalinized milk with lime water and made the digestion of protein almost impossible; today, we do directly the opposite, acidifying the milk with lactic acid, vinegar, hydrochloric acid or orange juice. By scientific conclusions we are able to offer the following method of simplified infant feeding that is easily acquired by any practitioner and almost foolproof. Assuming that a normal infant requires .75 grams of protein per pound of weight, per day, for waste and growth and that this requirement is met by 1½ oz. of milk per pound of weight, per day, and further assuming that 1 oz. sugar should be used for an infant under 10 pounds and 1½ oz. sugar for 10 pounds or over, we have an easy workable rule for most babies. To this add the fluid requirement which should total approximately 3 oz. per pound of body weight in 24 hours during the early months of life and 2 oz. per pound during the later months of the first year. Boil the milk, add lactic acid in the proportion of 1 dram for each pint of milk. Karo syrup (dark) is the sugar of choice unless it seems necessary to add a more laxative carbohydrate. Marriott maintains that most babies can take whole lactic acid milk without digestive upset.

Dear Delinquent Doctor: Do pay your dues and experience the feeling that comes with the knowledge of a good deed done.

ACTIVITIES IN MEDICAL AND HEALTH EDUCATION OF THE PUBLIC*

JOHN M. DODSON, M. D.,
Executive Secretary, Bureau of Health and Public Instruction of the American Medical Association,
Chicago, Illinois.

Mr. President, Members of the Omaha-Douglas County Medical Society, Ladies and Gentlemen:

May I correct one or two false impressions which my friend Dr. Findley may have left? I am not the managing editor of Hygeia, but a member of the editorial board and also the Executive Secretary of the Bureau of Health and Public Instruction of the American Medical Association.

Let me take as my text, the activities in the medical and health education of the public, a subject in which the bureau is especially interested.

Some three or four years ago, during the conference on Medical Education in Chicago, sitting in a luncheon conference at which the education of the public, and preventive medicine in general, were being discussed, a physician of some standing expressed the opinion that it was no business of the medical profession to educate the public; it was no part of the work of a doctor; it was his sole business to relieve and cure the disease and the distress of the suffering.

Not long ago in a western medical journal, I came across an editorial from which I shall quote. The writer states his subject to be, "Educating the Public?" and he says:

"We have purposely placed an interrogation mark after the title of these remarks and for the reason that, after we have quizzed a number of laymen and have made some personal investigations, it seems to us to be considerable of a question as to whether all the efforts relative to the education of the public, medically, will amount to anything.

"A year ago, in a town of more than ten thousand population, public educational meetings were held every Sunday afternoon for some months, that the laity might be acquainted with things medical that might be of possible worth to them. We attended some of those meetings and received information regarding those we did not attend. At not a single one of those meetings was there an attendance of over one hundred, or less than one per cent of the total population of the town. Nor were those meetings given much attention in the local newspapers. Nor did they occasion much discussion of a general nature. They apparently almost, if not quite, fell flat, for they were not continued, and we have been informed that the attendance declined as the series went on.

"This year, in the same town, instead of a series of meetings addressed by physicians, a different plan has been in vogue; the publication of weekly articles in the daily papers. We have made it a point to ask a good many people if they have read the health articles and so far have not found a single individual who has admitted that he has read a single contribution from start to finish. Most of those questioned have said, 'I read the headlines, but was not interested in the article'. Some said they glanced through the articles, but none of them could give us anything concrete as to their possible understanding of what had been published. It seems to us that the articles, like the talks, have fallen flat.

"In the past we have attended several lectures by doctors to the public, about things which should have been of more than passing interest to the latter—cancer, for instance. In not a single instance has more than a mere handful of laymen attended such talks. Nor have such addresses stirred up the least discussion or enthusiasm subsequently.

"Based upon our observations, which we have taken care to make, time and again, it would seem to us that the public does not care for much if any medical education. We have had some laymen say to us, 'The doctors will do well to educate themselves, that they may give us relief when we are ill. If they know their business there is no reason why we should burden ourselves with any unnecessary education or knowledge. If we are doing wrongly and that is recognized by our physician and he will tell us how to proceed rightly, that will be of more benefit to us than all the didactic talks that were ever given or articles that were ever published. Because we have faith in our own doctor, we will give heed to what he says'. Others say, 'Is this a scheme on the part of the doctors to gain publicity for themselves?'

"Consequently, it seems to us that it is a waste of both time and money—for much money is being expended in these educational campaigns, the country over—to make much if any endeavor to educate the public medically. In a considerable percentage of cases the doctors do not know how to reduce their remarks to terms readily understandable by the laity and if such remarks be not clear, it would be better were they never uttered. Not one doctor in a hundred knows how to write a newspaper "story" and as a consequence their educational stuff, as it appears in the lay press usually goes over the heads of the readers and so has little or no effect, either for good or bad.

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*Address given before the Omaha-Douglas County Medical Society, October 25, 1927.

"We, among ourselves, have much to say about preventive medicine, but to interest the public in any such thing is, as Kipling might say, 'another story'. The laity have the idea that it is the forte of the doctor to bring relief to those who are ill, and in a considerable measure that is the right idea."

From a city in Wisconsin came to the association the other day a letter written by a man who was not long since profesor of medicine in one of the leading universities. He writes, "I presume it must be known that from W.C.F.L. radio station in Chicago, known as the Voice of Labor, a man named Clark is broadcasting on Wednesday evenings medical talks. Last Wednesday he railed against antitoxin and vaccination for small pox. It seems strange that the Chamber of Commerce should sponsor this thing, making it more difficult for us who are trying to protect school children than it already is.

"What steps are possible against broadcasting of such incorrect statements, to say the least?"

A letter phrased in almost the same terms came from a city in Nebraska not long ago.

I have listened to the Voice of Labor radio, when out and out quack concerns were radio broadcasting misinformation. I dare say that the outpourings from the fountain head of chiropractic at Davenport, Iowa, reach the public in Omaha and other parts of Nebraska.

What is to be done about it? Is it at all possible for us to stop this type of broadcasting? You know as well as I do that it is not. That is one of the mistakes that the medical profession has made in legislatures and elsewhere in trying to suppress things they thought were wrong but which they have not convinced the public to be wrong—we have made martyrs of the people we tried to suppress, and so have actually advanced their cause.

I know of no other way to meet this misinformation, the wrong education that is coming from these various sources to the public, except by an organized, effective effort to tell the public the truth about scientific medicine.

You know as well as I, that the practical fruits of the last half century of marvelous advance in medicine have been almost wholly in the field of prevention. One can count on the fingers of one hand the additions, outside of surgery, to our curative resources. And, even in regard to the most outstanding of these, diphtheria antitoxin, our great hope of good lies in the prevention of the disease by toxin-antitoxin inoculation. It is a remarkable but a discouraging fact that, although we have had in antitoxin for 30 years a wonderful remedy for diphtheria, the incidence of diphtheria has scarcely diminished at all. It is only since the discovery of the plan of inducing immunity by antitoxin, that we see our way clear to the wiping out of diphtheria. Vaccination against small-pox has demonstrated its value beyond all question as an absolute preventive of smallpox, yet we had in the United States a hundred thousand cases of smallpox in 1920, and 56,000 as late as 1925.

It is possible to prevent a great deal of disease and distress and suffering, but the only way in the world it can be done is by securing the intelligent, sympathetic and sustained cooperation of the public, and that means education. It is the function of the bureau of which I am in charge to endeavor to arouse the profession to the importance of this field and I wish to make a plea this evening for the education of the physician to be the family health advisor as well as family doctor. Of course, as indicated in the editorial which I quoted, people have come to the physician always seeking relief from distress and pain and for a cure, but we can take advantage of the opportunity when that occurs to inform them in such a way about the possibilities of preventive medicine as to greatly lessen the amount of disease and suffering that is prevalent.

The most fundamental activity in that direction is the periodic health examination, which was approved by the A. M. A. in 1922. I am not going to discuss that general question; I know you are thoroughly informed about it here, and have done excellent work in advancing interest in that proposition. What I do want to emphasize is the fact that mere examination of the individual, and finding what defects he has, is but the first step in any plan of preventive medicine. The really significant thing about this procedure, if it comes to be generally adopted, is the fact that it places the family doctor in position to educate the individuals who come to him for such an examination in the most effective of all ways, namely in the face to face contact of the patient and physician, either in the office or his home. Doctors have always done this, more I think formerly than today, but it should become a part of the daily routine. We know what the dentists have done; for many years; they have insisted on their patients coming to them for correction of defects not noticeable to themselves and for advice as to the care of the teeth. Pediatricians began following this plan of preventive pediatrics some twenty years ago, having tried, with indifferent success, various other means of lessening the high infant mortality. Of course, the education of the mother in the care of her baby is the crux of the whole infant welfare movement. Today the men who devote their time to the treatment of children and their diseases give a large portion of their attention to advising mothers about their perfecly healthy children. That is what the physician in general must come to do. We hear much about the passing of the family doctor. I read not long ago a very interesting address by my friend, Dr. Herrick, in which he points out that the family doctor is passing and will soon disappear but he ends up with the best description of the real family doctor I have read in many years.

The general practitioner, the family doctor with a reasonably comprehensive view of all branches of medicine, becoming now the health adviser, was never so important as he is today. When the patient is in his office or he is in the home, it is his duty—it is part of his business—to see to it that the parents and the people in that home are informed of what they should do in the prevention of disease.

How are we going to succeed, for example, in lessening the still considerable mortality during pregnancy and at the time of birth unless mothers are educated to come to the physician in the early stages of pregnancy, to be examined and advised by them? How are we going to prevent our children going into school and continuing there, hampered by serious defects, physical as well as mental, unless parents are awakened to the importance of this matter?

One of the most significant and important movements of our time is the summer round-up campaign of the National Congress of Parents and Teachers which has succeeded this last summer in having examined nearly eighty thousand children and having their physical defects remedied.

How are we going to educate parents to the idea that they should know what their children are doing in school in relation to their present and future health? This advice should come from the family doctor.

Recently a great organization has been formed in this country looking to the prevention of heart disease, with numerous local and state organizations. The foundation of many of the cases of heart trouble is laid in the early school life of the child and previous to that time, mainly through infections.

We all agree that great evils grow out of the ignorance which continues among people generally in regard to sex relations, sex hygiene. How are we going to correct that, unless the parents are taught how to deal with children in this matter with the aid of the family doctor?

These are some of the things that must be impressed upon parents and people generally by the family health advisor, but he will find it much easier to give this information in an impressive way so it will be acted upon if people are already started to thinking about it.

I wonder how the writer of the editorial which I quoted, reconciles his statement that people do not want to be educated with the fact that no metropolitan newspaper can get on without a health column. Millions of dollars are spent for information and misinformation about health. Why? Because the editors are trying to educate people? No. Because the readers demand that information. If we physicians do not give it to them, someone else will; and the information given is frequently not of a sort to be to the best interests of the public or of the medical profession.

People do want information about health and medical matters. They are going to get it. It is true that if we go about it clumsily and without thought they will not be interested. Just to show the demand for that sort of thing, let me tell you what I learned in Kansas City last year: They have in Kansas City, so I was told, a large number of lay organizations, Kiwanis, Rotary, Lions Clubs, Woman's Federations, lodges of various sorts, and almost every one of those organizations when they are preparing for a program for the winter season include in it one or two health talks. Year before last the Jackson County Medical Society had requests for fifteen hundred health talks to be given at luncheons, dinners and at other times, and for a few longer addresses. They awoke to the fact that very few of their members were qualified to make such talks. Very few medical men speak well on health topics in a language intelligible to the public. So they instituted a movement to educate their men to make talks, and a group of 75 physicians paid a small fee for a series of twelve lessons on the subject. Perhaps the most important thing they got out of it was the discovery that a considerable number of the profession couldn't be taught to talk and the more thoroughly they could be persuaded not to try, the better it was for all concerned. Nothing will kill the interest of the community in health education more quickly than a bad speaker and a poor speech. How that program is going to work out, it is a little too early yet to decide. I understand that the number of demands the following winter was disappointing but the program is still continuing. I commend that plan to the consideration of every local medical society.

One of the methods of educating the public along certain lines of preventive medicine has been a health demonstration. I would like to refer briefly to that. Health departments have staged a good many health demonstrations and about ten demonstrations of that sort have been set up by the large philanthropic foundations in different parts of the country, some having to do mainly with tuberculosis, others with infant and child welfare, and others with a general health program. They have started out in all instances with which I am acquainted by obtaining the interest and cooperation of the medical profession but they have not always been successful in holding that interest and so the final result has been unsatisfactory. It is declared by the medical men themselves, in the medical societies, that they have tended to destroy the confidence of the community in the work of their own physicians, who, of course, when the demonstration withdrew, were the only ones left to carry on the medical work of the community. They have tended to pauperize the community because, of course, the service was free and while these people are well to do financially and did not need nor really desire free medical service, they developed a willingness to accept it and they weren't ashamed of it.

If such demonstrations are necessary and I think under certain conditions and in certain communities they are capable of doing much good, they ought to be in the hands of the medical profession and it is extremely important that medical men each year in communities like this be a unit in activities of this sort, that they stand as a unit in some program agreed upon by a majority vote.

In one community the question arose as to whether the citizens would continue this activity by voting a large sum to the health department for this purpose. The support of the foundation which instituted the demonstration was to be withdrawn; it had spent a large sum of money. It was suggested to the physicians of the city that they organize a plan and then go to the leading citizens and say, "we will take over this activity. we will conduct it, we are willing to take care of the really indigent without cost but we are not willing to give free care to those who are able to pay." It was believed that the citizens would be glad to accept their offer—What do you suppose the answer was? They said they couldn't get together. The profession itself was split up more or less into factions and couldn't get together on that proposition. Now, that created an almost hopeless situation.

Before closing I want to discuss what to my mind is a most encouraging situation in reference to the education of the young, for after all they are the group that is most important. We cannot do much in the way of educating adults but if we get the children in the very early stages in school life started along the right line, great possibilities lie in that direction.

Some sixteen years ago, in 1911, the American Medical Association met in Los Angeles. A committee was appointed to attend and convey greetings of the Association to the National Education Association which met in San Francisco, the next week, and at the same time to call the attention of the teachers to the importance of the health problems in education. That committee met with a very cordial and effective response. The matter was referred to the so-called National Council of Education, an important group within that great body of teachers, and a very strong committee was appointed which, with a small contingent from the American Medical Association, has worked harmoniously for fifteen years along this line, that is the education of the teachers of the country to the importance of health as a fundamental plank in any educational program.

I think it is fair to say that up to about ten or twelve years ago there was no subject in the curriculum to which teachers were more indifferent if not antagonistic than to hygiene, physiology and all that goes with it, probably due to the poor manner in which text books were constructed and to various other reasons. Within that time the change of attitude which has come over the world in this matter is simply marvelous. One cannot attend a meeting of educational associations today without hearing the expression constantly that whatever is taught in schools, health must be the fundamental thing of all; that without health there is no use in teaching anything else. As the superintendent of schools of Pittsburgh expressed it: "We talk of teaching the four h's, heart, head, hand, and health. Give me the teaching for health and I care not who does the rest."

The National Education Association has grown very rapidly in the last ten or fifteen years, it numbers now two hundred thousand teachers, and this movement is getting results. I think this committee on health problems can be justly credited with having been a large factor in this changed attitude of the teachers toward health. Another committee of this great organization was employed for some eight or ten years in drafting a curriculum for secondary schools; it was adopted by the organization and is now being put into effect in many places. That program started by setting forth the objects of education, such as educating for citizenship, educating for self-support, educating for good family life, and the like. The committee was unanimous on the question that health should be the first item on the program. That the increased attention to hygiene, physiology, and allied topics is getting results was strikingly illustrated by an experience of the magazine, Hygeia. Three years ago last spring a set of prizes was offered for the best health posters made by high school pupils. A remarkable return was experienced. We thought we might get two or three or four hundred posters instead of which they poured in until we had nearly five thousand. Every one of those posters was a credit to the pupil who drew it and some were remarkably good. One outstanding thing was that almost no poster in the lot had anything to say about disease; all the posters were about good health, proper diet, importance of sleep, importance of exercise. I am certain that pupils who are learning to construct posters of that sort, and to think up such effective health slogans are being educated to appreciate health and all that goes with it, and that this will make them an entirely different type of citizen from many of the adult citizens of today.

There will be little difficulty in getting out of persons educated in that way, all the necessary support to any public health department or public health work. I make a plea, therefore, for the advancement in every possible way of the medical and health education of the people.

Hygeia, of course, is seeking to fill a field. Let me tell you frankly it has not had the support from the memebers of the A. M. A., who are stockholders in the magazine, which we feel that it ought to have. We have had better support from the teachers. Doesn't it seem that every member of the profession, numbering 94,000, should have a copy of the magazine on his reception room table and get at least one subscriber a year?

Another thing we can do and have been doing for some time, is to print pamphlets, mostly reprints from Hygeia on a variety of subjects—infant welfare, communicable diseases, public health, cancer, conservation of vision, and the like. These reports published by the Bureau of Health and Public Instruction may be obtained at small cost. Whenever a health talk is given by a physician to a lay audience, it should be followed up by the distribution of some attractive booklet or pamphlet or leaflet that each member of the audience can take away and read at his leisure. For example, after a talk about the importance of toxin-antitoxin, one should distribute to the audience copies of such a pamplet as this (showing reprint on diphtheria). It serves to emphasize and clinch the lesson on the importance of the subject.

The medical profession, collectively and individually, must undertake the medical and health education of the laity. Vast numbers of people are eager for information about health and all that pertains to it. If we do not respond to this demand, others will supply it,—the quack, the charlatan, the cultist, the crank, the faddist. It is up to us to get the ear of the public in every possible way and give them scientifically reliable, dependable information, stated in such a way that it will impress them with the desirability of following the advice given.

CHRONOLOGICAL AGE AS A FACTOR IN DETERMINING THE TYPE OF DEMENTIA PRAECOX*

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I shall not attempt to differentiate as between dementia praecox and other psychoses but rather to point out wherein the various types of dementia praecox differ from each other and to explain why such widely contrasting syndromes are nevertheless one and the same disease. The text books are not at all explicit upon this same why. It is true that many symptoms and manifestations are common to the different types, but the same can be said of other syndromes which are recognized as distinct psychoses. There are as many points of similarity between manic depressive insanity and dementia praecox as there are between the different types of dementia praecox. Conversely, the points of variance are no greater or more distinctive between the two psychoses than between the types of the one. As a matter of fact, up until twenty or twenty-five years ago the types of dementia praecox were considered to be separate entities. Kraepelin described them as one and the same disease. The authorities have followed Kraepelin and we have followed the authorities. We believe we are on firm ground. Nevertheless, it is a relief to know that the explanation is not at all mysterious but is rather extremely simple and logical.

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*Read before Seventh Councilor District Medical Society, Superior, Nebraska, Nov. 3, 1927.

At birth the mind presents the absolute zero of intelligence. We are informed that at that time the fibers of the brain stem have not yet received the myelin sheath and as a consequence nerve impulses are impossible between the brain and the rest of the body. As contact is established impressions get through and are recorded as memory pictures. After a few weeks the mother observes that the baby notices things. At first the activity of the little mind is confined entirely to reception. Through repetition he comes to recognize certain sights, sounds and other impressions of the senses. Memory is established, concepts formed. He seeks to co-ordinate his concepts, to touch and particularly to taste whatever he sees. He reaches out and tries to draw himself near to what excites his attention. He learns to laugh, to creep, to talk; always his mother is teaching him. Later she sits him on the floor with his toys to amuse himself, intuitively accustoming him to assume some of the responsibility of his own existence. The individual learns to compare his impressions, to detect similarity and variation, to array one concept with another, to recognize incongruities where they exist and to attempt readjustments to correct them. He learns to think and to plan. His mental activity is translated into physical effectiveness. He becomes skilled in the use of his hands. He uses tools, with tools modifies his environment, clothes himself, devises means of transportation, lights his home by electricity. By speech conveys his thought to other people, and by writing makes a permanent record. Always under instruction; first his mother, then his teacher, later the college professor, directing his contact with environment to facilitate selectivity of impressions so that he may acquire the greatest amount of the right kind of knowledge as soon as possible.

Side by side with his instruction develops an increasing propensity to do some of the selecting for himself. Much of his own explorations are at variance with the line of effort desired by his tutors. But it all adds to the sum of experience. Eventually he comes to rely less and less on tutors and more and more on his own powers until at length the tutor as tutor is of the past. He still notices, observes, and is still learning, but he seeks information as man from man, equal from equal, exercising his own judgment as to acceptance or rejection. Authorities are consulted because they are time savers. He does not want to go to the trouble of digging up the facts for himself. His awe of authority is gone, and he does not hesitate to act contrary to authority when his own experience and developing circumstances dictate such a course. He in turn becomes the parent, provider and instructor for a child of his own. He, himself, becomes an authority with fixed habits of thought, definite purposes and established reputation. He now as zealously cultivates the expression of his own thought as formerly he cultivated the ability to absorb the thought of others. At last age supervenes with failing mind and body. Dependency again asserts itself and finally second childhood and helplessness.

An element important to our understanding of the development and manifestation of dementia praecox is the element of fear. The education of the individual includes not only what he shall do but what he shall not do. The mother is constantly on the watch to see that her little one does not hurt himself, that he does not touch a hot stove, nor stick a bug in his mouth. All day long it is: "Baby mustn't, Baby, don't do that, Baby mustn't", constantly protecting him from the consequences of his own ignorance. As he grows older and gets a little more experience the care takes the form of injunctions not to do so and so, not to go there and not to go here, not to stay out later than such and such an hour. The boy becomes a big boy. Later he goes to college or gets a job for himself, earns his own money. He is admonished as to certain courses and warned as to consequences, but he is not told flatly that he must not do so and so. It is left for his own good sense to decide that matter. The individual has arrived at the age when he must supply his own inhibitions. There is a period after the repression of childhood and youth when initiative and inhibition counterbalance each other. It is a period of doubt, distrust and morbid self-analysis. It is a period of restless activity, violent passions, roseate dreams and expectations, modified and held in check by the newly acquired and hypersensitive sense of responsibility and caution. These forces are also vigorous. It is like two powerful groups pulling against each other on a rope in a tug of war. Great progress is not possible in either direction. Eventually boldness asserts predominence. Familiarity with new problems of environment serves to dispel much of the doubt. Confidence appears. Progress is possible. Inhibition is applied like the brake on a car, delicately and not with the sudden devastating pressure of the inept. The normal person of mature age never gets beyond this tendency toward caution to counteract overhasty action but he plays inhibition against impulse skillfully and with deliberate consideration, backing his forward progress with an ever-increasing measure of energy and effectiveness, exhibiting courage and resourcefulness where before there had been high hopes rendered futile by timorous misgivings. Thus we have a mind developing from zero to full maturity.

Now, as to the effect of disease upon the mind. Dementia praecox is a terrible thing. It is an organic disease as distinguished from a functional disease. It is a destructive, crippling process from which the individual never entirely recovers. The course may be acute or chronic but with many exceptions it is progressive. It has much the same significance to the mind as has tuberculosis to the lungs. It is susceptible to much the same variations as to course. It may become latent in the same way. Its recoveries are similar in that they are often not true recoveries but are rather latencies which may readily again become active. Moreover, it has a predilection to attack the young, hence its name, but it may attack at any time of life. Cases in no way differentiatable occur after sixty and in early childhood. At whatever time of life the disease appears, its effect is to stop development at that point. Deterioration is the rule, sometimes slight but more often marked and many times profound. Complete recovery is rare.

This fact that mental development ceases after an attack of dementia praecox is of the utmost significance. It determines the type of disease. If it occurs in childhood the individual in his mental age thereafter remains a child. Many cases of feeble mindedness are, I am convinced, dementia praecox occurring in childhood. If the attack occurs during adolescence the individual never thereafter progresses beyond the simpering, puppy love stage. He may live many years but the only effect of age is to increase his stature. The same thing occurs when the attack is sustained in the 20's or the 30's. Up to the attack the individual has developed normally, he has the mental equipment, habits and capacity of his type, station and age. Then development stops. Whatever mental calibre the individual formerly exhibited he retains. It is blunted, tarnished, deteriorated but it is retained, and the wreckage in each case is of a mind activated respectively by childhood, youth, young manhood and prime of life.

Let us go into detail. Quoting from Jelliffe and White, "A patient from time to time writes letters appealing for his discharge and signing himself 'The Emperor'." Now, how is it possible for a person to believe himself so exalted as the Emperor and still plead in the most natural way to be released from an insane asylum? One would suppose that here was a combination of circumstances that would convince the most obdurate: An Emperor, by the very fact of his position, whose word is the supreme law of the land for every person in the land, official or otherwise, with power over life and death, to whom every official even the most exalted is beholden, and to whom in the last analysis each must look for confirmation of his every act, such a person finds himself obliged to send out letters pleading in the most abject manner to be released from an insane asylum! The man who at a mere whim could replace the entire personnel of this same asylum or destroy the asylum itself must plead with one of his own underlings to be released! How dare they shut him up in the first place? Why does not the grand high so and so appear with all his vested power and blast the individuals responsible for such indignity? Nothing occurs. He continues to write letters. The normal man can put two and two together and make four, but not these patients. This particular individual will go on believing himself the Emperor and at the same time will continue to plead to be let out. How is it possible for any individual to maintain intact two such mutually exclusive ideas? This situation, this fact has bothered observers and still bothers them. It is a condition that exists in 100% of dementia praecox cases. No amount of reasoning can alter these beliefs, nor can any combination of circumstances in their environment change them. We say they have delusions, but yet with all of our familiarity with the phenomenon we find it difficult to comprehend just how it is possible for it to exist. Bleuler calls it splitting of the personality and regards it as the foundation phenomenon of the disease. The term schizophrenia, "splitting psychosis", is derived from it. These effects are dependent in part at least upon what Bleuler calls autistic thinking. That is what Jung has denominated introverted thinking "in which the individual's interests are withdrawn from reality and he occupies himself with himself to the more or less complete exclusion of the outside world. This is the field of dream formation, of fantasies, wherein things wished for come true." (Jelliffe and White). Let me stop and emphasize this point. These patients are turned in upon themselves, introverted. They pay no attention to conditions or things about them, occupying themselves in their waking hours with dream thoughts, dream plans and dream purposes of the same sort, character and content as we have at night. If we can comprehend even slightly that fact we can comprehend something of the rationality of the patient's thought. The unintelligible jargon, the incomprehensibly silly, meaningless movements, attitudes and expressions are not meaningless to the patient. They have as definite a significance as do our thought to us—but they are still the stuff that dreams are made of. They whirl around in his head and attract his interest and attention to the extent that it is impossible for contact with reality to have any counteracting effect.

Autistic thinking: Have you ever been so immersed in some problem that you did not hear your wife call to you that it was four o'clock in the morning, and she had to put in a personal appearance and add a few remarks by the way of emphasis? We call this "concentration". It is a perfectly normal experience. It may be so complete that we are utterly unconscious of the passage of time or of what is taking place about us. This concentration is identical with the introversion of the praecox, except that introversion is a permanent mental state from which the individual can be aroused only partly and temporarily if at all. There are grades of intensity of introversion just as there are grades of intensity of concentration, but the introverted do not entirely emerge. It seems to me that these patients are as if they were at a picture show, only that the show is in their own heads. Introverted: All the cardinal symptoms of dementia praecox find explanation in that term, bizarre attidutes and gestures, rhythmic movements and sounds, negativism, the catatonic state, delusions and hallucinations, all are accounted for.

Previous to the attack these patients experience a prodromal period, headache, languor, malaise, loss of appetite, insomnia. Then they become ill and seriously ill, with fever, prostration, and often wild delirium. There are no symptoms, no appearances referable to any organ of the body, but they are ill, critically ill. When they recover they are autistic, introverted; always afterwards capable of maintaining two mutually exclusive concepts upon the same subject at the same time, illogical, incomprehensible, useless, dangerous. There are all sorts of variations. Chronic cases occur where the onset is insidious with no episodic period of any sort. The friends simply note the change in character and disposition and recognize the development of delusions. These cases are as truly autistic as the other.

Now, let us consider the influence of the mental age upon autistic thinking. It is perfectly evident that the boy of fourteen has not the mental equipment of the man of thirty-seven, station in life and other things being equal. Quantitatively then, when the two go crazy the boy has not so much to go crazy on. When he becomes autistic his ideas are circumscribed, immature, puerile. With the man there is a wealth of material from many sources with which to build up autistic concepts of infinite content and variety. He will speak familiarly of Einstein's Theory, the Pope of Rome, Visigoths of Ancient History, the number of hairs on the back of a flea; every thing in heaven above and the earth beneath and the waters under the earth is utilized in his conceptions. They are both autistic but with what a difference! The boy hasn't a great deal to make delusions of. He does not utter any; partly because it has been impressed upon him that "little boys should be seen and not heard". Initiative and self expression have been permitted only within well-defined limits. Nevertheless, such as they are, he has delusions. He is enjoying an eternal picture show all of his own with little girls throwing kisses at him. He sits and laughs and giggles to himself with a silly smile on his face. The smile is not so silly when we appreciate the meaning of it. There is nothing constrained or rigid in his attitude. He is perfectly free in movement. Rigidity and constraint appear as the result of hyperactive inhibitions. The boy of fourteen has no inhibitions except when his mother shouts at him that he must not do so and so. His is the hebephrenic type of dementia praecox; what is known as simple deterioration. The introvert of thirty-seven with his wealth of delusions which he does not in the least hesitate to express does not show any rigidity either, but for a different reason. He has inhibitions but they are under control. They serve him rather than master him. He has the confidence of the man who has investigated all sides of a question and is sure of himself. There is no uncertainty or hesitation, no constraint in his attitude. There is but slight deterioration. He is the paranoid.

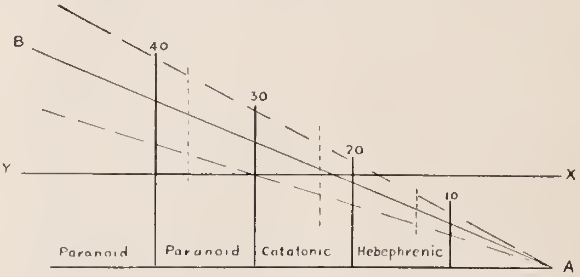
Now, let us take the man in his 20's. He is adult. He has finished his schooling and is fully equipped to go out and make his way in the world. His people are eagerly awaiting the first report of his success. He is fired with energy and enthusiasm. The world is his oyster and he is anxious to get to it, but he fully appreciates the value of first appearances and that he must be careful not to make mistakes. He goes to the extreme in that. His inhibitions are hyperactive. He is overburdened with a sense of responsibility. His very anxiety to avoid doing wrong makes him awkward. The thing that he wants to bring to his mind just won't come. He makes the mistakes he tries so hard to guard against. This is perfectly normal. He is disappointed, distressed, but he hides his hurt with a show of bravado and tackles the job again, hoping for better luck next time, or else he sulks, keeps up an attitude of indifference. What happens when such a man becomes autistic? He has abundant material of which to form delusions and these delusions center about his failures. There he is prepared for his life work. Ostensibly perfectly self-reliant and capable, yet he has failed. He is past the tutoring stage. He cannot bring himself to go back again and ask assistance. His mind is in a turmoil. All his energy and attention, to the exclusion of everything else, is centered about his troubles. He magnifies the seriousness of his mis-adventures out of all proportion to reality. In an agony of shame and humiliation, a Hell of self-depreciation, and recrimination, his every effort to act in a constructive manner is met by a counter impulse holding him back. At a period of life when the passions are volcanic in intensity this impasse exhibits a like violence manifested objectively by rigid muscular immobility. He retires within himself, holding one position day in and day out, refusing to eat or even to heed the calls of nature, utterly expressionless, resisting any attempt to do anything for him. This is the catatonic.

Thus we have a disease characterized and completely dominated in all its appearances by one manifestation, introversion, producing widely different syndromes according to the time of life at which it appears, the Hebephrenic, the Catatonic and the Paranoid. Mixed types are as readily accounted for. It is obvious that if a person become introverted at the age of eighteen or twenty he will show some of the characteristics of both the hebephrenic and catatonic type. Just so the invert of the late twenties will shade off into the paranoid. Whether the individual is bright or stupid, precocious or backward, the age at which he becomes introverted determines the type of the disease.

This is graphically shown on the chart. An ascending line, a-b which should terminate in an arc, representative of the failing power of old age, indicates mental development. The vertical lines mark the decades. Maturity is represented by the line x-y intersecting the development line in the early twenties.

Precocity and backwardness are represented by broken lines above and below the development line respectively. Short vertical dotted lines crossing them indicate approximately the ages at which the classical types occur. It is obvious that ages between those indicated will present various combinations of type.

Learning, in the quantitative sense, as accepted in the modern use of the term education, is not considered in this discussion. To the development of maturity education is a retarding influence rather than not. The newsboy thrown upon his own resources becomes self reliant and self sufficient at a much earlies age than the college man. These are the qualities which indicate maturity.



Precocity, unusual aptitude, likewise sets forward the date of maturity, while backwardness retards it. Consequently the bright boy of eighteen becoming autistic may show a preponderance of catatonic symptoms while the backward individual of the same age may exhibit a pure hebephrenic reaction.

Jelliffe and White state that cases of insanity in no way differentiable from hebephrenia occur after sixty years of age. This is a further illustration of the theory that mental age determines the type of dementia praecox. At sixty the faculties are upon a decline. Fears and inhibitions amounting to self-distrust and dependence upon others are often found, a state comparable to that of the early teens, arrived at in the progress of the individual to his second childhood. It is very natural that the praecox reaction take the form of hebephrenia.

I made the statement that education per se was not a factor in determining the type of dementia praecox. This requires some modification. When the brilliant cultured individual in his late thirties or older, the man of high attainments and broad knowledge of men and affairs, the man of marked personality and exceptional vigor of intellect, becomes autistic, he becomes the true paranoic. The man of lesser calibre becomes the paranoid praecox. The wonderfully vivid, far reaching conceptions of the paranoic, amplifying and modifying an ingenious and plausible system of delusions, often so plausible that thousands of people accept the ideas as truth, differ in quality but not at all in kind from the stubborn but patently ridiculous ravings of the paranoid praecox. Paranoia as an entity does not exist. It is merely a glorified praecox, the reaction of the cultured, talented individual as against one of lesser attainments.

SUMMARY

Momentous and far reaching differences appear in the content and habits of thought of the normal individual at various periods of his life, producing correspondingly great differences in physical reaction and conduct. Dementia Praecox, a crippling disease of the mind, common to all ages, characterized by autistic thinking and resulting in permanent arrest of development, shows itself by equally divergent and distinctive syndromes of manifestations according as it appears at the critical periods of development. These syndromes, denominated types are: Hebephrenic type, occuring in youth; Catatonic type, at maturity; and the Paranoid type, at the prime of life.

EPILEPSY—A CASE REPORT*

RUDOLPH F. DECKER, M. D.,
Byron, Nebr.

In a patient presenting the typical attacks of epilepsy or the typical attacks of chorea, we have little or no difficulty in arriving at a diagnosis. We meet, however, at times, with a case that shows some of the characteristics of both and with symptoms, which will not permit of absolute certainty to classify the case as either epilepsy or as chorea in the beginning.

I wish to report the following case:

Alice M., age ten. Delivery normal. Has had measles, chicken pox, influenza and whooping cough. Had large tonsils and adenoids and for several years, until at age six, she had her tonsils and adenoids removed, had frequent attacks of tonsillitis and usually, following the tonsillitis, an acute attack of otitis media with purulent discharge for a week or more. Since the removal of tonsils and adenoids, she has had practically no trouble with her throat and no further attacks of otitis. She was always somewhat below normal weight until after her tonsillectomy. Since then her general health has improved markedly. She was, however, always a rather nervous child. She was restless and would often have irregular muscular movements, especially of the arms, suggestive of chorea.

In September, 1924, the parents first noticed that she would have a peculiar twitching of the muscles about the right eye. This twitching gradually became more frequent and affected more of the muscles of the face. The irregular movements of the arms became more frequent at this time.

At school she was exceptionally well advanced, having finished the third grade at age eight.

In the spring of 1925, the mother noticed that the patient would occasionally, while at the table, stop eating momentarily and have a rather blank stare. She would continue with her meal, however, almost immediately. Soon the mother noticed that these attacks occurred also while the child was at play. The attacks became more frequent and the child would begin to walk, or stagger, backward, but would not fall. Later on, however, she would occasionally fall unless she could get to a wall or something to lean against. She was apparently unable to speak during these attacks and did not seem to realize when spoken to. At first these attacks would last but momentarily. They gradually became more frequent and lasted longer. Later slight convulsive contractions of the muscles of the arms and legs developed, although this was hardly noticed until early one morning, the mother found her in a somewhat prolonged attack. After that she had from twenty to thirty, or more, attacks in the 24 hours. If she was up, she would occasionally fall, but not very often. No preliminary cry. No frothing at the mouth. Seldom would she sleep following the attack. Usually she would go on with her work or play, as though nothing had happened.

At this time, I had my first chance to observe her in one of these attacks. They were somewhat as follows: She would suddenly have a rather blank stare and stop talking. She would bend her head forward, breathe rather heavily, and there were more or less general tonic contractions of the whole muscular system. She would soon relax with no clonic contractures, or at most only suggestive ones. During the attack the patient was apparently oblivious to her surroundings. When the attack was over, she would appear slightly frightened. These attacks would last only for a few moments. During the next six weeks they occurred with great frequency, both during the day as well as during the night.

At the beginning of October, 1925, the patient was taken to Lincoln, where Dr. Welch and his associates saw her. She was accommodating enough to have several of these attacks while under observation.

Physical examination was practically negative. Dr. Black states that there is a slight amount of adenoid tissue in the upper pharynx. Roentgen report of the skull by Dr. Rowe is as follows: Stereoroentgenograms were made showing the entire skull and cervical portion of the spine in lateral position. Careful examination was made of the entire skull, with special attention to the inner tables of the sella tursica, sutures, and for evidence of pressure. The sella is medium sized and regular. The clinoid processes are well developed. There are no signs of erosion. In the posterior portion of the skull the inner table shows marked convolution depression. The sutures are negative. The size of the convolution depression should be considered, but in view of the fact that there is no erosion or no diastasis of the sutures, I do not lay great significance on this one finding.

Spinal puncture by Dr. Welch under local anaesthesia. He reports as follows: The pressure was not great. There was some blood in the fluid, which I consider due to trauma of needle. A cell count was, therefore, of no value. The gold chloride test was negative and a Wassermann was negative.

The patient came home the same day that the spinal puncture was done. She was put to bed and kept there for about eight weeks. On the day following the spinal puncture, the number of attacks dropped to seven or eight in 24 hours, and occurred only during the night. From week to week these attacks became less frequent until there were days at times when she would go without any at all.

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*Read before the Seventh Councilor District Meeting held at Superior, Nebraska, November 3, 1927.

From December, 1925, until the beginning of May, 1926, she remained much the same as just described and her general health was good. Then the attacks became more frequent again. For five or six days she was feverish and had a rise of temperature to 102°. Appetite poor. She vomited occasionally. Physical examination revealed no definite cause for the rise in temperature or the vomiting. At this time the mother noticed that the child had difficulty with her speech. It seemed as though she knew what she wanted to say but that she was unable to express it in words.

About this time she was seen by Dr. G. A. Young of Omaha. He reports: The history of epileptic seizures developing after a severe whooping cough suggests a focal meningo-encephalitis, presumably of the left motor area. She showed no objective evidence of organic brain disease during the examination. A lumbar puncture showed a pressure of five mm. of mercury, with normal cell count and normal proteid content. Wassermann and Lange negative.

Following the first spinal puncture, in October, 1925, the attacks dropped immediately from twenty to thirty to seven or eight, occurring only during the night. Following this second spinal puncture, the attacks became decidedly more frequent, as many as forty in 24 hours. The attacks gradually became less again in number until in December, 1926, she had another period of fever, with the temperature running as high as 103°. For two weeks she was in bed, being quite drowsy, at times almost stuporous. The speech difficulty was more marked. She had from 25 to 40 seizures a day. Gradually the number of seizures came down again to five or six a day, occurring only during the night.

In July, 1927, she had another period similar to the one just described, with fever, stupor, and frequent seizures. At this time, October, 1927, she is having from three to five seizures during the night.

Since December, 1926, she has gained rapidly in weight and her physical appearance and mental condition are suggestive of thyroid deficiency. The speech difficulty remains, although apparently not as pronounced on some days as on others. Irregular movements of the right arm and leg much of the time, suggestive of left motor area involvement. Considerable headache for the last three months.

COMMENT

We have here a patient at an age, when chorea is most common and epilepsy comparatively rare. A patient with a markedly nervous temperament and one who exhibited, over a considerable period, more or less involuntary chorea-like movements.

Following this we have attacks of temporary loss of consciousness, suggesting petit mal. Gradually there are added to these attacks slight convulsive seizures, suggesting grand mal, and eventually typical attacks of grand mal.

The very marked reduction in the number of these seizures immediately following the first spinal puncture and the very marked increase in number following the second spinal puncture, is difficult to explain.

Whether or not there has been a preceding or concomitant chorea in this case remains undecided.

The twitching of the muscles of the right eye and right side of the face, the irregular movements of the right arm and, in a lesser degree, of the right leg, and the partial aphasia, suggest an involvement of the left motor area of the brain.

Note: Shortly after reading this paper, this patient was referred to the Mayo Clinic, at the request of the parents. A report, just received from the section of pediatrics of the clinic, states that physical examination and the various laboratory tests were negative. The report adds: "She was seen by the neurological department who felt that the grand mal attacks were most probably due to a diffuse encephalitis. The prognosis is not good". .

A RECTAL TEMPERATURE OF 109.6 FAHRENHEIT

W. I. Devers, M. D., Upland, Nebr.

The patient was a female child of six weeks of age. Her birth was normal, labor lasting six hours, terminating spontaneously with moderate pains. The mother was in good health. The child was in good condition and breast fed. She was well till one week previous to examination. During that week she was constipated, a glycerine suppository being used daily. The last two days she was troubled with pain and a great deal of flatus. Nursed well till day of examination.

When seen, child had pasty hot skin, dilated pupils, slightly bulging fontanells, no signs of consciousness. Respirations were shallow, catchy and eighty per minute. The heart rate was about 180 per minute. The rectal temperature was 109.6, and the axilliary temperature 106 degrees F. There was slight abdominal distension. The respiratory sounds were rough, and guttural sounds could be heard on account of the character of the breathing.

A colonic flushing was given, a great amount of flatus was expelled which was followed by some fecal matter. Counter irritation was applied to the chest. Rectal temperature fell to 106 degrees F. Colonic flushings were repeated every 3 hours. The rectal temperature the following day was 104 with thin offensive, frequent stools. The third day the temperature was 100.5, bowels open, child brighter and nursing well. The fourth day the temperature was normal and the child has been feeling well since.

LOCAL ANESTHESIA IN OPHTHALMIC SURGERY

Local anesthesia in ophthalmic surgery is discussed by C. S. O'Brien, Iowa City (*Journal A. M. A.*, Jan. 7, 1928), in all its phases. He feels that local anesthesia is the safest, easiest, and altogether the best method in practically all ophthalmic operations in juveniles and adults. To perfect one's technic, and without this results will be unsatisfactory, it is necessary to make a study of the anatomy of the orbit and surrounding tissues. This is best done by actual dissection.

DEDICATION OF NEW HOSPITAL UNIT UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE, OMAHA, NOVEMBER 30, 1927.

A. R. MITCHELL, M. D.,
Dean of the First Medical Department,
Lincoln, Nebr.

For the instruction of the audience it is well to state at the beginning that medical education in the United States 40 or 50 years ago was not what it is and has been in the past twenty years. In the late eighteen hundreds, antisepsis was in its developmental stage with aseptic methods following rapidly the study of infectious processes. Bacteriology was in its infancy and few if any schools at that time included it in their curricula. Thyphoid and diphtheria ran riot and we had no definite knowledge of their etiology.

Medical schools had large lecture halls and huge classes of students. Instruction was given in the form of lectures with only an occasional case demonstrated from the pit with comments from the professor with limited history notes or records. In surgery, operations were witnessed from the benches. There was a total disregard of aseptic or antiseptic precautions. The first antiseptic clinic I saw was in 1879 in the operating room of the great Cook County Hospital in Chicago.

The work was done under carbolic acid spray supplied by steam atomizers. Asepsis was not known and even the carbolic spray and the huge Lister dressings were not in universal use until some time later. Most of the medical schools of the country were private or corporate enterprises supported by the faculties and by student fees. In a few of the large centers, where medical schools had university or college affiliations, higher standards and better equipment were found but most of the schools had no adequate endowment or facilities. In defense of this condition of affairs it may be stated that most of the then known facts of medicine and surgery could be covered in less time than at present. In Rush, which ranked as a great college and was, one practitioner covered Physiology and Diseases of the Nervous System, another Obstetrics and Diseases of Women and Children, (I am not so sure that the women were not safer, but certainly the children were not).

The great surgical clinic of Gunn was held each Saturday afternoon, in the same amphitheater used four days of the week for lectures and demonstrations on anatomy.

No protecting sheets or towels were visible and no woman nurse counted sponges or handled instruments. No abdominal section was done or seen in that clinic up to 1879. Shortly after that things changed, and all the newer methods were adopted but there was not change enough to discourage ambitious men who wished to enlarge their fields or influence by establishing more, if not better medical colleges. The desire took possession of a group of medical men in Omaha, about 1875 or 1876, as a result there came into being the Omaha Medical College. It must be said for those men that they constructed a creditable building and assembled an able faculty group and that their work was equal to that of the average school of the time, but the Omaha Medical College for some reason did not appeal to the profession of Lincoln for here was the educational center of the developing West. Here we had the College Atmosphere and best of all, the organic act which endowed the University, made provision for a College of Medicine, in addition to the College of Fine Arts, of Literature, of Agriculture, etc. Here we had ready at hand an opportunity to develop a real Medical School, under a Board of Regents and could give a college training without other than a matriculation fee of $5.00 and a fee to cover laboratory expenses. We had, too, the advantage of a well equipped chemical laboratory, also a museum with a few animal skeletons and exhibits botanical and zoological, anyway it had a name. What we lacked was a hospital but we assumed that the hospital would come with the college and in that assumption we were not entirely mistaken. Anyway hospitals were not, in the experience of most of us, of so much importance at the beginning.

Most of the doctors of our time and before us, got their clinical experience, their actual contacts with disease through their preceptors and out-clinic material. How crude the process was and yet I am bound to say that such contacts developed a human touch and a human interest in the sick and unfortunate as is wanting in some of our modern machine methods. One of the faults with the modern medical man is, that he looks more to the case than to the man as a human being. As the Omaha Medical College grew, so grew our desire and ambitions in Lincoln, and the University School of Medicine idea fostered and developed frequent conferences among trusted friends, some from Omaha, of course, until we felt that it had reached such maturity that we could approach that always austure Board of Regents with the proposition. Dr. H. B. Lowry, an able and ambitious young man, had an office on the same floor as mine, and what one could not think of the other did. We were charged by our associates with the task of formulating and presenting plans to the Regents. To our surprise and delight our proposition met a friendly response, and was referred by the Board to the University and Library Committee.

I shall read to you now the report kindly furnished me by Mr. J. Steward Dales, then secretary of the Board and who still holds that very honorable position:

"Feb. 21, 1883.

The Committee on University and Library to whom was referred the memorial of Drs. H. B. Lowry and A. R. Mitchell relative to a medical department beg leave to report the following preamble and resolution and recommend its adoption:

WHEREAS: The establishment of a College of Medicine at the earliest day practicable is contemplated in the Organic Act of the University, and it appears to the Board of Regents that the progress and development of the State is sufficient to warrant the addition of such college to the University; and

WHEREAS: A number of physicians of good reputation and professional standing in the state, have tendered their services as Professors, Lecturers and Demonstrators, to fill the chairs designated by the Act for such medical department for at least two years, without salary;

RESOLVED: That a college of medicine be established in accordance with the provisions of an "Act to establish the University of Nebraska" approved Feb. 15, 1869, and acts amendatory thereto, and that the necessary Professors be elected to fill the several chairs designated in said Act, the conditions being, that the Professors and instructors elected shall receive for the next year no more than actual travelling expenses incurred in attending to the duties imposed upon them, as compensation".

(Vol. 1, pp. 439-440.)

At this place the entire faculty was elected as nominated by our committee.

Between February and the June meeting of the Board of Regents the homeopaths and Eclectics had not been idle for—

"June 13, 1883.

Regent Gere offered the following:

RESOLVED, That the following gentlemen be appointed to the chairs designated in the Medical College to represent the Homeopathic School of Medicine, whose work shall be independent of that done by other professors appointed to the same chairs:

B. L. Paine, Lincoln, Prof. of Theory and Practice.

C. L. Hart, Omaha, Prof. of Mat. Medica and Therapeutics.

B. F. Righter, Lincoln, Prof. of Obstetrics and Dis. of Women and Children.

RESOLVED, That the following gentlemen be appointed to fill the respective chairs designated in the Medical College to represent the Eclectic School of Medicine whose work shall be independent of that of other professors appointed to the said chair:

W. S. Latta, Lincoln, Prof. Theory and Practice.

J. H. Woodward, Seward, Prof. Mat. Med. and Ther. and that a chair of Obstetrics and Diseases of Women and Children be filled by such person as may be designated by the Eclectic Medical Society of the State of Nebraska

PROVIDING, That the services of all the professors herein appointed shall be rendered without compensation from the state. Adopted.

On motion the following resolution was adopted:

RESOLVED, That the Medical Faculty or the representatives of either school of practice represented in the Faculty are authorized to select a board of Examiners outside of the Faculty to examine candidates for degrees, who shall report their doings to the Medical Faculty. Degrees will be conferred by the Board of Regents upon the recommendations of the Medical Faculty showing the concurrence of the Board of Examiners."

(Vol. 1, page 452).

"June 14, 1883.

RESOLVED, That the Board of Regents of the Nebraska State University require as a condition of graduation from the Medical Department of the University that the candidate be a graduate of a literary College, or pass a thorough examination in the Common School branches and a three years' course of lectures in medicine."

(Vol. 1, p. 451).

"June 14, 1883.

Regent Merritt moved that Prof. A. R. Mitchell be and is hereby appointed Dean of the Medical College Faculty, which motion prevailed."

(Vol. 1, p. 455.)

"December 19, 1883.

On motion the following resolution was adopted:

RESOLVED; That C. F. Stewart, M. D., of Brownville, W. H. Babcock, M. D., of Bradshaw, Nebr., and George Deans, M. D., of Alma, Nebraska, be hereby constituted and appointed a board of examiners to pass upon applications for diploma of students in the Eclectic Department of the Medical College of the University, providing that the University shall not be responsible for any expense incurred by such examination".

(Vol. 1, p. 480).

"June 13, 1894.

The Committee on course of study reported back for consideration by the full board, the following recommendations of the Chancellor, viz:

1st, That the terms of Admission, the amount of work and length of course, in the several sections of the medical college, be invariably the same.

Regent Burnham moved the adoption of the recommendation, which motion prevailed.

2nd, That no student be credited with any course or courses taken in the other colleges until his credentials therefrom, which must have been presented within one month after matriculation, have been passed upon by the faculty and accepted by the Chancellor.

Regent Hall moves the adoption of the above recommendation, which motion prevailed.

3rd, That the demonstrator shall provide all material for the study of practical anatomy, and shall personally direct and certify the work of all students in that branch, without discrimination.

Regent Burnham moved the adoption of the above recommendation, which motion prevailed.

4th (To be in force from and after September, 1885).

Every candidate for admission to the college of Medicine, must be eighteen years of age and must present to the Chancellor satisfactory evidence of a good moral character. He must further sustain a satisfactory examination on the subjects required for a county superintendent's certificate of the second grade, with the addition of elementary chemistry, and by an examination on one or more of the required subjects, or by an essay of not less than 300 words on a subject assigned at the time, he must show ability to write the English language correctly. Graduates or matriculates of any other college of this University, or of any other reputable university or college, graduates of any high school or academy, with a course of study equal to that of the Latin School of this University, and persons holding County Superintendents certificates as above, may be admitted without further examination.

Regent Mallalieu moved to strike out of the above words "and persons holding County Superintendents certificates as above", which motion prevailed.

Regent Mallalieu then moved to adopt the above recommendation as amended, which motion also prevailed.

5th, No person shall be admitted to the degree of doctor of medicine, under the age of twenty-one years, or without satisfactory proof of good moral character. The candidate must have completed a course of medical study, continuing through three lecture terms of not less than six months each and including the study of practical anatomy and practical chemistry; and must have passed satisfactory examinations on all the studies of such course. But no person shall be admitted to examination on any study who has not attended at least four-fifths of the lectures and exercises thereon. Students from other medical colleges may be admitted to advanced standing on proof of compliance with the above, or substantially equal requirements, up to the point of entrance.

Regent Mallalieu moved the adoption of the above recommendation, which motion prevailed".

(Vol. 2, pp. 11-12.)

"Dec. 16, 1886.

Your committee to whom was referred communications from the secretary of the state medical society, naming Drs. Alex. Baer, F. D. Haldeman, M. W. Stone, S. J. Bridenstine and Charles Oxford, a committee to examine candidates for graduation, in pursuance of conference and resolution heretofore had and adopted, recommend the acceptance of such committee for said purpose, and hereby invite them to act in conjunction with proper representatives of the university, provided no obligation of expense or compensation in any form is assumed for or on their behalf for or in connection with such service.

Also that the secretary of the University communicate this section to the secretary of the state medical society and to the Dean of the medical faculty".

(Vol. 2, p. 88.)

"May 19, 1887.

RESOLVED, That the report of the committee (to whom was referred the subjects of the Medical College) and which recommends its continuance, be not concurred in, but that on the contrary it is inexpedient to longer continue the same; and that the same be and is hereby discontinued and closed from date.

Regent Holmes moved to amend the motion to adopt, by adopting the report of the committee on reorganization of the Medical College.

Regent Hull offered an amendment to the amendment, that the report of the committee on reorganization be not concurred in, and that the present Medical College organization be discontinued from and after the close of the present Academic year.

The question being put to vote upon the amendment to the amendment, the same was declared carried.

The question then recurring upon the original motion and resolution of Regent Burnham as amended, and the same being put to vote, was declared carried and adopted".

(Vol. 2, pp. 109-110.)

It would appear from the above that Dr. Lowry and I appeared before the Board of Regents sometime before their meeting of Feb. 21, 1883, representing the advantages of Lincoln as a medical center and the importance of the establishment by that particular board of the medical school provided for by the charter of the University.

You will see, of course, from the report of the Regents that they could have taken no other position. The Regents entered into this enterprise with the purpose of widening the scope of University service to the State. They could not foresee, nor did we, the dangers that were to come to us through the insistant efforts of the Homeopathic and Eclectic organizations. Had these two enterprising groups waited for a time until we had strengthened our first group we might have succeeded. As it was, we were a house divided, and the Regents were more wise in putting the school to sleep after four years of effort to harmonize conditions, and wait for a resurrection, a re-birth, than they were when they first established the department.

And this great school had a re-birth, the pains which wracked and wrecked its first efforts to live and grow have given place to a beautiful and a useful life which will send from its halls men embued with the spirit of service to those who suffer the hurts and the disease misfortunes of life, in this new birth one dream of my youth has come true.

CHOLECYTITIS WITH CARDIAC DISEASE

ALFRED N. BESSESEN, JR., M. D., AND DANIEL H. BESSESEN, M. D.,
Minneapolis, Minnesota.

The patient is both housewife and teacher, aged 39, widow, with a child 11 years old. Both her father and mother have had cardiac disease, the former died at 67. She has had scarlet fever, diphtheria, sore throats and arthritis together with cardiac indisposition off and on for several years. The spells of tachycardia were associated with gallbladder attacks always following a severe spell. The menstrual history is apparently involved with the tachycardia and the periods are scanty and irregular. She has had attacks of gallbladder disease for the past 20 years, and during that time has been distressed by all fat

When first seen, the patient is sitting up in bed supported by her sister. They have done this for three days and both women are nearly exhausted. The patient's pulse is up around 200, no radial can be felt at either wrist, there is cyanosis, anasarca and dyspnoea. By prompt administration of large doses of fresh tincture of digitalis, the pulse is dropped to 80. It becomes strong, the edema disappears together with the cyanosis and dyspnoea. She is allowed to rest quietly and convalesce. She had previously been in bed for one year. Four months after this first examination, the gallbladder is removed under novocaine and nitrous oxid anesthesia.

Following the removal of the gallbladder these attacks become very infrequent and occur most frequently at the time of the menstrual periods which remain scanty and irregular. This trouble is greatly relieved by the administration of ovarian substance. The patient leaves the hospital after uninterrupted healing able to eat all forms of food. She is nursed back to almost complete restoration of health and strength, is able to continue teaching again and for a year is in excellent condition, taking tr. digitalis in small doses at fairly regular intervals.

Unfortunately, about 18 months after the operation, an accident happened to leave her little girl in the street in front of the home just as the mother was returning from the school. The patient picked the child up and carried her to the second floor of her home. This brought on an acute myocardial insufficiency from which, even then she might have recovered. She was teaching in a country school, however, and afraid of losing her position, she continued with her classes, in spite of edema, dyspnoea and tachycardia. She finally developed severe anasarca and died.

Gallbladder disease is more common in women than in men. It is made more prevalent through the slowing of the bile in the biliary tracts produced by inactive life, pregnancy, pelvic disease or other pathology. Certainly the high cholesterolemia of pregnancy has something to do with cholecystitis. Each form of gall stone is probably produced by a slightly different, peculiar chemical change of the bile.

That cardiac disease can result from gallbladder illness has long been recognized. Probably the most disastrous feature of this type of cardiac pathology is the extensive muscular injury usually brough about. The customary factor is the lifting of the diaphragm by the gas distended stomach. This relation between pelvic pathology and the gallbladder is a not uncommon element in these cases. Correction of the underlying derangement may do much to prevent advancement of the lesions, both in the heart and liver. Removal of the gallbladder should be urged in all cases where the heart is believed to be the subject of direct injury through its presence

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ROSTER OF OFFICERS

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Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

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Dr. H. E. Potter, Fairbury	1928
Dr. A. P. Overgaard, Omaha, Secretary	1930
Dr. H. J. Lehnhoff, Lincoln	1930
Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

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Dr. B. B. Davis, Omaha, Chairman	1928
Dr. Roy W. Fouts, Omaha	1929
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

MEMBERSHIP AND DUES

The new year is well on the way and so is the fiscal year of the Nebraska State Medical Association. If dues are not paid by February first the member is delinquent. A physician delinquent is not entitled to the benefits of the Medical Defense feature of the association during the period of his delinquency. If the need for medical defense came to a physician delinquent, he would most certainly emit a mighty groan on being informed that delinquency automatically operated to deprive him of medical defense. Medical Defense alone is worth more than the total of the eight dollars dues required of each member.

With a multiplicity of duties devolving on the average physician, it is not to be wondered that society dues are sometimes overlooked and this is particularly true if he does not have his work and affairs well systematized. To such this little reminder should be a gentle hint to make out check for his dues and forward to the secretary-treasurer of his county society at once.

There are those who from time to time wonder whether the state medical association is worth while. The answer is self evident. If the returns came in the form of dividend checks as from banks or loan associations so one would have something tangible to handle there would be no question.

The physician takes membership in lodges and good fellowship and luncheon clubs and pays more than the amount of his medical association dues—just to be a good fellow; why not pay cheerfully and promptly the dues to his medical association which concerns his life-work?

WELL DESERVED HONORS

The regents of the University of Nebraska, January 7, 1928, conferred the LLD degrees on Dr. A. F. Jonas, Dr. J. E. Summers and Dr. W. O. Bridges of Omaha, in honor of the faithful service rendered by them to the University of Medicine and in recognition of distinguished services rendered to humanity during their long careers in Omaha. The three men are well known in medical circles all over the United States and somewhat in Europe. University honors could not have been more worthily bestowed.

SECOND CALL FOR PAPERS

Any member wishing a place on the program for the May meeting, at Hastings, will please send name and title at once to the office of the Secretary, Center McKinley Bldg., Lincoln.

—R. B. Adams, Sec.

THE SURGEON'S FEE

The adjustment of the surgeon's fee is a topic worthy of some thought by members of all branches of the medical profession.

The layman is apt to consider the proper arrangement one based on time consumed in the actual service, and to forget the element of skill and time previously employed in preparation; while the surgeon follows the plan which the late James J. Hull testified was the basis for adjustment of freight rates—all the traffic will bear. Following the first plan would fail to make returns to the surgeon on the large investment required for medical education and special preparation. It might logically lead to salaried surgeons and the establishment of this service as a state function. The latter plan allows the surgeon entire freedom, limited only by his conscience and business expediency; and with some surgeons conscience does not appear to enter into the matter to any great extent.

The spectacular features of a surgical operation—the patient going down into the valley of the shadow of death and back again—the immediate and positive results from many operations; the comparative rarity of these procedures in each individual's life; and worry over a hazardous undertaking combined to produce a psychology favorable for collection of fees which seem out of proportion to those collected in other lines of medical effort. Generally this inequality is more apparent than real but, nevertheless, the very large fees are usually surgical fees.

What are the effects of large or excessive fees? First, the total income of surgeons is reduced by competition. Rumors of great renumeration for the work causes two young surgical blades to grow where one grew before. The present crowded condition in surgery and the keen competition for the work is largely the result of this one thing. Second, many who are in need of surgical treatment do not have it because they think they cannot afford it. The large fees they have heard of give them the impression that they must pay these huge sums or receive treatment as charity patients, neither of which they desire. Third, the large fees are responsible for that disgraceful practice, the secret division, a practice degrading to the one who gives and to the one who receives, and damaging to the reputation of the whole profession.

The remedy for the ills which have grown out of the present system for adjustment of surgical fees is not in destruction of the system, but in honest conscientious application of the system. Strange as it may sound the largest fees are not the excessive fees. Small and moderate fees are more often excessive for those required to pay them.

In agricultural Nebraska, the surgeon must at times have a crop failure. Surgeons sometimes fix an amount as the minimum fee and, if the patient cannot pay this, there is no charge. The work is considered charity. Many small fees are better than one large one.

First of the qualifications of the medical man should be honesty; and if it be the first of the surgeons qualifications, the whole problem of the surgical fee will be settled under the present system.

—B. R. McGrath.

A NEW NATURAL REMEDY FOR DIABETES?

From *Science,* December 23, page 619, we learn that Dr. Yai S. Sanitwongse, a Siamese graduate of the Medical School of Edinburg, has discovered in the fruits of certain solanaceous plants, what apparently is a very valuable remedy for diabetes. One of his diabetic patients having shown sudden variations in his excretion of sugar, it was found by a process of exclusion that the reductions were coincident with the ingestion of these fruits, which were used at meals as a condiment. A number of trials have shown that with the ingestion of a certain amount of these fruits, sugar disappears promptly from the urine to return when their use is stopped; and this without any restriction of diet, which always includes a large proportion of rice. One case which has come to the personal attention of the reporter, (Hugh M. Smith), was that of a European about 55, who had a severe form of diabetes with much emaciation. By taking ten of the fruits at each meal the glycosuria was completely controlled and he gained 30 pounds in about six months. The regular use of the fruits was then discontinued and he has remained perfectly well and sugar-free for over two years unless he indulged in some unusual amount of starch or sugar. The plants which produce these fruits grow wild throughout Siam. They belong to the genus Solanum but appear not to have been specifically identified. The berries are about the size of large peas; light yellow when ripe and of a rather pleasant flavor. They are especially effective when fresh but retain much of their virtue after having been dried. All of which, if true, is most noteworthy, furnishing a striking parallel to the case of ephedrin, the Chinese substitute for adrenalin. Might it not be worth while to investigate the effects of some of our native Solanums? The description of the Siamese berries strongly suggests those of our own Solanum

Carolinense, sometimes known as Horse-nettle. These I *think* are not poisonous. Or the edible ground-cherries belonging in the same family with Solanum might be tried.

—H. Gifford.

HISTORY OF MEDICINE IN NEBRASKA

Book, Tracing Role Medical Profession Has Played in Development of State, to be out April 1.

Adventure, heroism, romance, love—

The history of medicine in Nebraska is fraught with all these elemental parts to the usual book of fiction.

Explorers, Indians, fur traders, soldiers, officers, the Civil War, the building of the Union Pacific, the development of a great virgin territory into magnificent statehood, make up the colorful background.

Impinging directly on the record of Nebraska's settlement, from the first detachment of United States troops who built the first army post, old Fort Atkinson, later Fort Calhoun, on Council Bluff, just north of Omaha, in the fall of 1819, is the contribution of men of the medical profession.

It is this thread of pioneer medical history that Ella Fleishman Auerbach has caught and is carefully tracing down to the present day, in the *History of Medicine in Nebraska,* to be off the press April 1, if Nebraska physicians will cooperate by sending in their biographies and photographs, in time.

Her compilation dates back to the first epidemic in Nebraska history, the scurvy which attacked those early soldiers during their first winter on Council Bluff, so that hundreds of them died and are buried at this historic spot. The epidemic is described in the Surgeon-General's report, and in the *American Journal of Medical Sciences* in 1842, in an article by Dr. Samuel Forry of New York. The first two white practitioners in the state were the two medical officers connected with this outfit: Surgeons T. G. Mowrer and John, or Marion F. Gale. It is this Dr. Gale (authorities differ as to his first name) who furnishes the love theme through his marriage with the pretty Indian maiden, Ni-ku-mi, daughter of a chief of the Iowas, and the child of which couple, Mary, was the mother of the late Dr. Susan La Flesche Picotte of Walthill, Nebraska, the only Indian woman ever to achieve the degree of doctor of medicine, in the United States.

Down to the last two graduating classes of the two great schools of medicine in Omaha, the pages promise to be replete with tales of absorbing interest, showing the important role medical men have played in the development of this great commonwealth.

Dr. Enos Lowe, who organized the company which first planned the city of Omaha, in 1854, Dr. George Miller, the first practitioner in the city and later the editor of the World-Herald and largely responsible for the project of locating the Union Pacific bridge at its present site; Dr. Charles A. Henry of Bellevue, to try whom for murder the first jury in Nebraska territory was impaneled in 1855 (he was freed on a self-defense plea); Dr. Harvey Link of Millard and others who took up homesteads out in the state, helped organize counties and towns, served in the territorial legislatures, as mayors and members of school boards; pioneer physicians who rode 75 to 100 miles on horseback, with their saddle bags, in blinding blizzards, on their errands of mercy, to the most modern one, Dr. F. A. Brewster of Holdrege, who flies in an airplane on his calls—all these will be treated in the book now in the process of compilation.

Vivid stories of pioneer practitioners, those who figured in political life; the more recent ones distinguished for their scientific achievement; those who write, or are musical; those who collect rare books and works of art; those who have served in strange parts of the world in the foreign mission field; one who went on an Arctic expedition in 1871; and a record of all medical societies in the state, from the very first association of Nebraska doctors in 1855 down to the recent reorganization of the Missouri Valley Medical Society with headquarters in the fine Medical Arts building in Omaha, devoted exclusively to the profession, will be included in the one volume. Space will also be given to the women's auxiliaries of the state and local medical societies.

Nor will the women practitioners be forgotten. From Dr. Phebe A. O. Oliver Briggs of Beaver City, who came west in 1872 from Danville, N. Y., to be post doctor for the Otoe Indians at Maryville, Kansas, and who came to Nebraska the next year, with the Otoes, on their annual buffalo hunt and who was here during the memorable Indian massacre near the present site of Trenton, Nebr., down to Dr. Olga Stastny of Omaha, who covered herself with glory by her heroic service in Near East relief work on Macronissi Island, off the coast of Greece, so that she is heralded as the "heroine of the east" by Dr. Esther Lovejoy in her recent book "Certain Samaritans", the grand procession of courageous pioneer women practitioners will march through the pages.

Complete histories of the two splendid schools of medicine, Creighton and the University of Nebraska; and pictures and descriptions of the leading Nebraska hospitals and nurses' training schools will be included, as well as many interesting personal sketches.

The whole will make a valuable compendium of all matters of medical interest and will be as complete as the cooperation of Nebraska physicians permits. Two thousand circular letters were mailed in November to every registered physician in Nebraska, with the request that he or she send in biographical data and a photograph, and any other material considered worthy of perpetuation. More than 1,000 replied. Another 1,000 have yet to send in their data and photographs.

The time is short.

All Nebraska physicians who have not yet complied with the request are urged to do so AT ONCE. February 20 is the absolute "dead line" for copy.

There is no financial obligation incurred. The Omaha-Douglas County Medical Society has endorsed the project, which is sponsored by A. F. Tyler of Omaha. Serving on the advisory committee are the following prominent men in the state: Doctors A. R. Mitchell of Lincoln; B. R. McGrath of Grand Island; F. A. Long of Madison, editor of The Nebraska State Medical Journal; H. H. Hepperlen, Beatrice; C. B. Calbreath, Hastings; E. A. Creighton, Red Cloud; J. A. Willis of McCook; F. W. Plehn of Scottsbluff; J. B. Redfield, North Platte; J. E. Hartwell, Crawford; A. E. Buchanan of Fremont; C. P. Fordyce of Falls City; T. P. Livingston of Plattsmouth; D. T. Martin of Columbus; Morris Nielsen of Blair; J. P. Gilligan of O'Neill; A. N. Compton of Valentine; C. K. Gibbons of Kearney; and W. O. Bridges, W. F. Milroy and E. C. Sage of Omaha.

—Albert F. Tyler.

"TRADER HORN" AND SAVAGE REMEDIES OF THE WEST AFRICAN COAST

"Trader Horn" in a book by the same name gives with some detail the life of a trader in darkest Africa a generation ago. Trader Horn was an English college boy, who at 17, in quest of adventure, hired to a party of West Coast traders and was destined to spend his life in Africa. His contact with the natives brought some very curious observations and experiences. "One of the most interesting natives of the Gaboon was Old Man Pipi, chief medicine man, and he had some wonderful cures". The natives were subject to a species of painful heart disease, fatal if not attended to in time, and Pipi had a sure cure for it. A pain in the region of the heart was a sure indication of it. Pipi would press the painful spot with his finger to locate the place, then inserted an instrument like a flat bamboo needle, between the ribs, sidewise, 2 to 3 inches deep. The patient showed little sign of pain and was cured immediately.

A wonderful cure was a small worm in the eye which was very painful. Pipi would wait until it appeared wriggling over the ball under the conjunctiva, then with a small bamboo needle, quick as a wink, he had the small worm, about half an inch long and as small as a thread, on the end of the needle.

"Trader Horn", one day while hunting, walked into a swarm of midges (a gnat peculiar to Africa), causing violent pains in both eyes and much swelling. "Pipi bade me lie down and produced a green stalk of something that looked like hemlock and hollow. This he sharpened like a quill and squeezing it dropped a couple of drops in each eye". The immediate effect was considerable smarting; but in a few minutes this had disappeared and he could open his eyes and was cured.

He was cured of West Coast fever by a medicine man who gave him small red berries that produced sweating. A gunshot wound that nearly tore off his thumb was cured by a bark emulsion and the wound was filled with the "white inside of a cricket".

THE RADIOLOGICAL SOCIETY AT NEW ORLEANS

The Radiological Society of North America met for its thirteenth annual meeting in New Orleans, Louisiana, at the Roosevelt Hotel, November 28th, 29th, 30th, and December 1st and 2nd. The attendance was fully up to expectations and an unusual number of the doctors took their wives, because of the interest in visiting a Southern city.

There were one hundred eight participants in the program. New Orleans and the South furnished the leaders to represent the basic sciences and research work, but from the North a number of prominent scientists took part in the program. Those from New Orleans participating in the program were Dr. R. Matas, Dr. Laurence DeBuys, Dr. Charles Duval, Dr. J. H. Musser, Dr. Maurice Gelpi, Dr. Wm. H. Harris, Dr. Amedee Granger, Dr. Leon J. Menville, and Dr. Harry Laurens. In addition, Dr. Wm. P. Davey of State College, Pennsylvania, and Dr. George L.

Clark, or Urbana, Illinois, discussed fundamental science of applied chemistry and physical research. The guests from abroad were Dr. H. Behnken, from Berlin, Germany, who is at the head of the German Bureau of Standards; Dr. A. Lacassagne, from France, official representative from Pasteur Institute; Dr. J. Forestier, from Aix-les-Bains, France; Dr. Franz M. Groedel, Bad-Nauheim, Germany; Dr. Hermann Holthusen, Hamburg, Germany.

The program was given much as usual but it was divided into sections so that those in attendance could choose therapy or diagnosis or some particular symposium. A special feature of the program was in the nature of radiological clinics every afternoon from four to six, given by different masters. Among the most successful clinics were those given by Dr. J. C. Bloodgood, on bone tumors; Dr. Amedee Granger, on Sinuses and Mastoids; Dr. Edward S. Blaine, on Bone and Joint Injuries; Dr. Lewis Gregory Cole, on Serial Roentgenography in the Diagnosis of Gastro-Intestinal Lesions; Dr. Benjamin Orndoff, on the Stomach and Duodenum; Dr. James T. Case, on Diseases of the Colon; Dr. Leon T. Le Wald, on Gastro-Intestinal Diseases in Children; Dr. Maurice McPhedran, of Phipps Institute, on Lung Diagnosis; Dr. J. Forestier, of Aix-les-Bains, France, on Lipiodol in Chest Diagnosis; Drs. Erskine, Pohle, Chamberlain, Newell, Glasser and Portmann, on Problems in Practical Dosimetry; Dr. P. M. Hickey, of Ann Arbor, Michigan, Localization of Foreign Bodies in the Eye; Dr. B. H. Nichols, Urinary Tract; Dr. Sherwood Moore, Cholecystography; Dr. Desjardins, Rochester, Minnesota, on Treatment of Tumors; Dr. Henry Schmitz, on Treatment of Malignancy in Female Pelvic Organs.

Aside from the scientific program, which was of unusual interest, most of the members had time and opportunity to visit about the older parts of the city and to enjoy the sights and life for which New Orleans is noted. The hospitality of the South was shown in the perfection in which all the features of the entertainment were carried out. At the banquet table, aside from the speeches of our foreign guests, who represented officially their respective governments, two of Nebraska's professional men took part. Dr. H. Winnett Orr gave a classic address on Lord Lister, in honor of the one hundredth anniversary of his birth. Dr. Edward W. Rowe, who presided as president of the society at all the sessions, spoke on "The Value of a Medical Society".

A reporter always looks for the sensational, in writing up a meeting. The foreigners were written up in all the papers, and no doubt deserved the share of attention which they received. But the progress of radiology has now reached the place where the most interesting and worthwhile developments lack the sensational but are solid and substantial features. The x-ray in its application, especially in therapy, has never yet been defined in accepted terms or units. The high spots in the program concerned the standardization of roentgen dosage. Out of the work of this society will in all probability come a standard unit. The foreigners present represented the approval of Germany and France and probably of England, to unite with the Radiological Society of North America in establishing the unit of measurement, thus establishing an international unit of measurement. The Bureau of Standards of the United States Government was represented at the meeting and announced officially their endorsement of this part of our program. Next summer there will convene in Stockholm an international congress, which has been called largely for this purpose. It is conceded that the outcome will be the acceptance of the standards presented at New Orleans. It was found that the workers in the above mentioned countries who have been experimenting independently were within a small per cent of arriving at the same unit of measurement.

The scientific exhibits and the commercial exhibits were fully up to standard and were in a sense auxiliary aids to a successful program. Next year the meeting will be held in Chicago at about the same time of the year.

Following the New Orleans meeting about seventy-five made up a party who sailed by a boat chartered from the United Fruit Company for a cruise on the Carribean Sea. A stop of three days was made in Havana, where they were officially received by the Cuban Medical Society. Sight seeing in this interesting and important sea port together with official recognition by the Cuban Medical Society, the Cuban Radiological Society and by the President of the Republic, together with many social features, made a very pleasant and long to be remembered visit in Cuba.

—* * * *.

EDITORIAL PARAGRAPHS

The biblical character, Luke, was a Greek physician.

The editor would like to receive more case reports for publication in the Journal.

A "phytobezoar" is a food concretion in the human stomach and is of very rare occurrence.

On February 19, 1928, the Boston Medical and Surgical Journal will celebrate its one hundredth anniversary.

The annual meeting of the Nebraska State Medical Association will be held at Hastings, May 15, 16, 17.

Press report says 161 deaths from "moonshine" occurred in Chicago in 1927 and that there were 433 deaths in which alcohol was a contributing factor.

The supreme court of Nebraska has decided that the law making parents, children, brothers and sisters liable for indigent members of their families is constitutional.

The National Grange has appealed to the American Medical Association to remedy the condition that is bringing about the growing scarcity of physicians in rural practice.

In the case of DeJung vs. Egbert, suit for malpractice, the supreme court has decided that the law does not require the patient's consent to an operation, if a near-relative is present and consents.

The Ohio State Board of Health has issued a warning against allowing cultists to manipulate patients recovering from infantile paralysis. Much harm and no good can be done by active manipulation.

The Annual Congress on Medical Education, Medical Licensure and Hospitals, is called for February 6, 7 and 8, 1928, at the Palmer House, Chicago, and a very cordial invitation is extended to the profession to attend.

If you have not paid your dues, your membership is forfeited, February first. Why not set yourself right by sending the amount to the secretary of your county society without waiting to finish reading this Journal.

A recent case is reported from Indiana where a coroner's inquest into the cause of the sudden death of a patient in a cultist's office returned a verdict that patient came to her death from dislocation of the cervical verterbra.

A leper confined to the National Leprosarium at Carville, La., was found guilty of murder and sentenced to ten years in the penitentiary. It was then discovered that there are no quarters in any prison where a leper may be held. A real problem is presented in this case.

The first American soldier to be killed by Germans in the World War was Lieut. William T. Fitzsimons of the medical corps. Bombs dropped by enemy planes on U. S. Base Hospital No. 5 at Dennes-Camiers, resulted in the death of Lieut. Fitzsimons and three privates.

The Nebraska Section of the American College of Surgeons will hold a clinical meeting at the Fontenelle Hotel, Omaha, February 7 and 8. All medical men are cordially invited to attend this meeting. There will be no papers; the whole program will be clinical and all clinics will be at the hotel.

One cannot help wondering whether a physician is justified in prolonging life by artificial respiration for well over a month as was done in the Oconto case; whether in a case known to be hopeless on account of paralysis of the pneumogastric nerve, it were not mercy to let the patient die as nature intended.

Whether persons who deliberately plan and commit murders are insane or not, most of us will agree that we will feel a bit safer if they are executed, inasmuch as a sentence to the penitentiary or committment to institutions for criminal insane, does not assure us that they may not be turned loose to commit other crimes.

Eighteen doctors in eight towns in southeastern South Dakota have given notice that after January first, 1928, service will be declined to those whose accounts are in arrears and who have not made satisfactory arrangements for further extension of credit. Lists of delinquents are furnished to all the physicians in the group.

The first woman nurse in the Civil War was Dorothea Dix. She was given permission to organize a corps of nurses for service in hospitals "if in the opinion of the surgeon general or the medical officer in charge, it is evpedient to do so". She soon became a hospital administrative official. Before the close of the war thousands of women offered themselves for nursing service.

The Nebraska Tuberculosis Association desires this Journal to state, by way of correction, that the fifty dollar prize to be awarded at the annual meeting of the Nebraska State Medical Association is for the best pathological exhibit of any kind and is not limited to tuberculous specimens as the context of the offer published in this Journal some months ago, led the reader to believe.

Dr. Morris Fishbein, Editor *Journal A. M. A.*, was in Omaha and Lincoln just before the Holidays and spoke before a number of lay bodies and before the medical societies of Omaha and

Lincoln. Dr. Fishbein is one of the most versatile persons in the medical profession and his talks come right from the shoulder and hit the point aimed at with undoubted force. If we had a hundred Doctors Fishbein to broadcast the truth about scientific medicine the campaign of education would soon acquire momentum.

In the *Military Surgeon* for January is an article "Recollections of Some Old Army Officers" by Lamb, in which occurs the following Civil War history, having a bit of local color: "When I was admitted to the Mansion House Hospital, Dr. John E. Summers, a Regular Army surgeon, was in charge, in fact, he was in charge of all the hospitals in the city of Alexandria. He had rather a brusque manner. I was present at one of his operations and I thought he spilled more blood than was necessary. He had a son, John E. Summers, Jr., at Omaha".

Supplementing the running comment editorial in the last number on the secretaries and editors conference in Chicago in November, the following from the address of Dr. W. C. Woodward of the bureau of legal medicine is quoted: "We come to the question of reciprocity. I am very glad that some light has been thrown on the ruling that was made in Nebraska that reciprocity with the licensing boards of states was impracticable where the state did not have a basic science act. There was absolutely no legal basis for that in the basic science law adopted by the state of Nebraska. The matter was not called to my attention by the state of Nebraska, but I noted in *The Journal* that such a decision had been made and looked into it very carefully. I want to congratulate Nebraska on the effectiveness of its political organization. It accomplished something that I think may have tended to confuse the legal issue, particularly the interpretation of the reciprocity clause, but something that so far as I know has not been accomplished in any other state. In passing the basic science act, they tacked on to it a very considerable act longer than the basic science act that had no relation to the basic sciences, and yet they got that all through as a basic science act, and then (this is the remarkable part) within ten days repealed all that part of the act except the part relating to basic sciences and passed a new medical practice act. I think that is some legislative committee."

CLINICAL PROGRAM, NEBRASKA SECTION, AMERICAN COLLEGE OF SURGEONS, FEB. 8-9

First morning from 8:30 to 1:00, during which time there will be verbal presentations of the following subjects. No papers will be read.

"Treatment of Obstructive Lesions of the Pylorus in Infants", C. R. Kennedy, Omaha.

"General Pre- and Post-operative Treatment", A. J. Brown, Omaha.

"Significance of Blood in the Stool", L. E. Moon, Omaha.

"Treatment of Neoplasms of the Suspiciously Malignant and of the Malignant Type", J. E. Summers, Omaha.

"Treatment of Uterine Prolapse", C. H. Waters, Omaha.

"Treatment of Pelvic Infections", 6 slides, Palmer Findley, Omaha.

"Treatment of Pyelitis", Edwin Davis, Omaha.

"Plastic Surgery of the Mouth", W. L. Shearer, Omaha.

"Treatment of Congenital and Acquired Deformities of the Nose", J. M. Banister, Omaha.

"Foreign Bodies in the Air Passages", J. B. Potts, Omaha.

"Management of the Acute Sinus", W. P. Wherry, Omaha.

"The Importance of Correct Skeletal Alignment, a First Essential in Restoration of Deformities of the Legs and Feet", J. P. Lord, Omaha.

Second morning, 8:30 to 1:00, during which time there will be verbal presentations of the following subjects. No papers are to be read.

"Toxic Goiter". Discussion opened by Dr. C. F. Andrews, Lincoln; Dr. F. H. Morrow, Columbus; Dr. E. G. Johnson, Grand Island; Dr. A. A. Smith, Hastings; Dr. K. S. J. Hohlen, Lincoln. Subject presented by Dr. Max Emmert, Omaha.

"Surgical Management of Pulmonary Cavernous Tuberculosis". Discussion opened by Dr. C. A. Allenburger, Columbus; Dr. L. M. Stearns, Kearney; Dr. D. C. Hilton, Lincoln; Dr. H. H. Davis, Omaha. Subject presented by Dr. H. W. Orr, Lincoln.

"Osteo Myelitis". Discussion opened by Dr. J. P. Lord, Omaha; Dr. J. E. M. Thompson, Lincoln; Dr. Albert Lynch, Fairbury; Dr. F. A. Long, Madison; Dr. J. F. Langdon, Omaha. Subject presented by Dr. H. W. Orr, Lincoln.

"Fractures". Discussion opened by Dr. H. M. Hepperlen, Beatrice; Dr. C. A. Hull, Omaha; Dr. B. R. McGrath, Grand Island; Dr. E. L. Brush, Norfolk; Dr. C. C. Johnson, Lincoln. Subject presented by Dr. H. F. Johnson, Omaha.

"Peritoneal Drainage". Discussions opened by Dr. H. H. Everett, Lincoln; Dr. J. S. Welch, Lincoln; Dr. Isaiah Lukens, Tekamah; Dr. R. R. Best, Omaha; Dr. A. J. McKinnon, Lincoln. Subject presented by Dr. A. C. Stokes, Omaha.

"The Acute Mastoid". Discussions opened by Dr. J. J. Hompes, Lincoln; Dr. H. B. Lemere, Omaha; Dr. F. T. Teal, Lincoln; Dr. W. L. Curtis, Lincoln; Dr. L. B. Bushman, Omaha. Subject presented by Dr. Claude Uren, Omaha.

"Alveolo-Sinusitis With Fistula". Discussions opened by Dr. Paul Black, Lincoln; Dr. C. H. Fox, Kearney; Dr. F. S. Owen, Omaha; Dr. C. H. Campbell, Columbus; Dr. W. F. Callfas, Omaha. Subject presented by Dr. E. B. Brooks, Lincoln.

"Orbital Reconstruction". Discussions opened by Dr. H. B. Lemere, Omaha; Dr. J. M. Banister, Omaha; Dr. F. T. Teal, Lincoln; Dr. J. M. Patton, Omaha. Subject presented by Dr. Sanford Gifford, Omaha.

"Hodgkins Disease". Discussions opened by Dr. D. B. Steenburg, Aurora; Dr. F. B. Hollenbeck, Lincoln; Dr. C. E. Palmer, David City; Dr. D. C. Miller, Omaha. Subject presented by Dr. D. T. Quigley, Omaha.

The chairman, on behalf of the Fellows, extends a most cordial invitation to every physician in Nebraska to be present at the meetings.

—Clyde A. Roeder, Chairman.

AUXILIARY MEMBERS: ATTENTION!

Will all members and all Hygeia chairmen of the Women's Auxiliary of the Nebraska State Medical Association please cooperate with the state Hygeia chairman in keeping her records correct and up-to-date, by sending a duplicate copy of all orders obtained through them for Hygeia?

It is only in this way that she can be aware of all activity in this extension throughout the state.

—Mrs. Fred L. Wilson, Stuart, Nebr.,
State Chairman on Hygeia Extension.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Assistant Medical Officer
Associate Medical Officer
Medical Officer
Senior Medical Officer

Applications for these positions will be rated as received by the Civil Service Commission at Washington, D. C., until June 29, 1928.

The examinations are to fill vacancies in various branches of the service throughout the United States.

There are vacancies in practically all branches of medicine and surgery, but there is especial need for medical officers qualified in tuberculosis or neuropsychiatry.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States civil service board of examiners at the post office or customhouse in any city.

CONTAGIOUS DISEASES REPORTED TO THE STATE BUREAU OF HEALTH

Lincoln, Nebraska

	1927	1926
Chicken-pox	1869	1243
Diphtheria	454	292
Encephalitis Lethargica	4	2
Erysipelas	6	4
German measles	1108	49
Influenza	223	256
Measles	5707	1442
Meningitis, Cerebro-spinal	9	14
Mumps	1426	311
Paratyphoid fever	1	1
Pellagra		1
Pneumonia	87	110
Poliomyelitis	115	20
Rabies		1
Scarlet fever	2006	2135
Septic sore throat	72	28
Smallpox	691	806
Tetanus	3	5
Trachoma		4
Tuberculosis	239	227
Typhoid fever	119	148
Whooping cough	616	928

THE SOCIETIES

The **Madison County Medical Society** (including also Stanton, Pierce, Antelope and Knox Counties), at the annual meeting, December 20, elected Dr. A. C. Barry, Norfolk, president, and reelected Dr. E. L. Brush, Norfolk, secretary-treasurer. Dr. D. T. Manning, Omaha, was the guest of the evening and gave a talk on "Laboratory Methods", and Dr. Lucien Stark, Norfolk, gave a paper on "The Laboratory and the Country Doctor". The program followed a banquet.

The **Saline County Medical Society**, at the annual meeting December 13, elected Dr. A. A. Conrad, Crete, president; Dr. H. W. Quirk, Crete, secretary-treasurer; and Dr. R. O. Kirchman of Wilber, delegate.

At the annual meeting of the **Scotts Bluff County Medical Society** at Scottsbluff, December 8, Dr. G. W. Pugsley, Bayard, was elected president; Dr. J. B. Schrock, Scottsbluff, was elected secretary-treasurer, and Dr. E. E. Griggs, Scottsbluff, was elected delegate.

The **Adams County Medical Society**, at the December meeting, elected Dr. J. V. Beghtol, Hastings, president; Dr. J. K. Strate, secretary-treasurer. Preliminary arrangements were made for the forthcoming meeting of the Nebraska State Medical Association in May.

Dr. A. P. Overgaard was elected president and Dr. Earl C. Sage, secretary-treasurer of the **Omaha-Douglas County Medical Society** at the annual meeting December 13. Dr. R. D. Schrock, Dr. C. T. Uren, Dr. E. W. Powell and Dr. F. W. Heagey were elected delegates.

The members of the **Box Butte County Medical Society** met with the hospital staff of St. Joseph's hospital, Alliance, and elected Dr. L. R. Farmer, Alliance, president; Dr. E. I. Whitehead, Alliance, secretary-treasurer. Dr. H. C. Walker, Alliance, read a paper on "Study of the Blood as an Aid to Diagnosis".

The **Dodge County Medical Society**, December 12, elected Dr. W. H. Heine, Fremont, president; Dr. J. S. Devries, secretary-treasurer; and Dr. A. E. Huff, North Bend, delegate.

The **Eleventh Councilor District Medical Society** met in Ogallala on the evening of December 12th. A banquet had been prepared at the Scott Hotel by the Keith-Perkins Society who had invited the Eleventh Councilor District and the Lincoln County Medical Society as guests. The doctors' wives were also invited. After the banquet the ladies went to the beautiful new home of Dr. and Mrs. H. A. Vandiver and were entertained at Bridge. The doctors adjourned to the City Hall where the Eleventh Councilor District Society was called to order by President Dr. J. B. Redfield. The following officers were elected for 1928: Dr. G. B. Dent, president; Dr. H. A. Vandiver, vice president; and Dr. H. H. Walker, secretary-treasurer. The Keith-Perkins Society then was called to order by Dr. Vandiver and a paper was read on "Injuries to the Eye" by Dr. H. H. Walker, which was very instructive. Dr. A. C. Johnson of Omaha gave a lecture on goitre which was scholarly, instructive and interesting.

—J. B. Redfield.

At the annual meeting of the **Gage County Medical Society** the following officers were elected: Dr. J. C. Tucker, Beatrice, president; Dr. F. W. Buckley, secretary-treasurer. Dr. C. A. Bradley, oldest practitioner in the city, spoke briefly of the hard, lean years when work was plentiful and pay was scarce, and paid tribute to the physicians of that city. Dr. C. P. Fall spoke in a reminiscent mood of the days when doctors wore tall hats and cutaway coats. He, too, eulogized the old family physician.

The **Thayer County Medical Society** held its annual meeting at Hebron, January 5. The following officers were elected: President, Dr. H. H. Stretton, Chester; vice-president, Dr. F. A. Mountford, Davenport; secretary-treasurer, Dr. R. F. Decker, Byron; delegate, Dr. C. C. Snowden, Davenport.

It is of interest to note that Dr. Snowden was the first delegate of the society, 25 years ago, and that he and Dr. Stretton, the newly elected president, are the only charter members of the society still actively connected with it. The society is planning to celebrate its 25th anniversary in April.

Dr. F. A. Mountford, Davenport, presented a report on nine cases of diphtheria, occurring in seven families. Among the complications, paralysis of the ocular muscles, diplopia, and paralysis of the lower limbs occurred.

Practically all the children in the Davenport schools were immunized with diphtheria toxin-antitoxin.

A round table discussion of diphtheria and of scarlet fever followed this report.

—Rudolph F. Decker, Secretary.

HUMAN INTEREST TALES

Dr. William Novak has located at Howells.

Dr. Leonard Schafer has located at Hebron.

Dr. M. Margolin has located in South Omaha.

Dr. J. R. Montgomery has located at Merriman.

Dr. A. W. Fees, Blair, has been seriously ill lately.

Dr. C. C. Gafford, Wymore, is reported seriously ill.

Dr. B. H. Clark, Ashland, has been ill for some time.

The Broadstone Memorial hospital at Superior was opened January 1st.

Dr. A. F. Jonas, Omaha, who has been ill for same time, has about recovered.

The Dr. R. T. Van Metre home at Fremont was damaged by fire in December.

Dr. V. L. Siman and Dr. Paul F. Siman, Winside, have opened an office at Wayne.

Dr. L. H. Lee, for the past five years a practitioner at Seward, has located in California.

The Dr. C. M. Swab family of Omaha report the birth of a daughter, December 16, at Philadelphia.

Dr. K. S. J. Hohlen, Lincoln, is recovering from the effect of a severe gastrorhagia suffered several weeks ago.

Dr. and Mrs. K. G. Fletcher, Orchard, have started on a trip around the world, going toward the setting sun.

Dr. W. A. Campbell, formerly of Glenvil, has moved to Lincoln and Dr. L. Rider has taken his place at Glenvil.

Drs. Homer Davis and R. D. Balcom, Genoa, have become associated in the practice of medicine and surgery.

Dr. J. P. Lord and Dr. R. D. Schrock, Omaha, attended the Western Orthopedic association at Nashville, Tenn., in January.

Dr. and Mrs. B. B. Davis, Omaha, have gone on an ocean trip that will take them to Buenos Aires, Cape Town, Egypt and the Holy Land.

The contract has been let for the building of a Lutheran Hospital at Fremont. The building is to be of brick and four stories in height.

Dr. George H. Knappenberger, Kansas City, spoke on "Diseases of the Aorta", before the staff of St. Elizabeth's hospital, Lincoln, December 13.

Dr. Rachel M. Cooper, for 18 years a practitioner at Aurora, has been appointed medical adviser to the students of the State Normal School at Normal, Ill.

Mrs. F. A. Long, Madison, vice president of the Women's Auxiliary of the American Medical Association, attended an executive board meeting of the organization in Chicago, January 4th.

BOOKS RECEIVED

Nerve Tracts of the Brain and Cord by William Keiller, F. R. C. S., Ed. Cloth. 8 mo. 434 pages. Price $8.00. The MacMillan Co., New York. 1927.

Nasal Neurology Headache and Eye Disorders by Greenfield Sluder, M. D., F. A. C. S. Cloth. 414 pages with 167 illustrations, including 2 color plates. 12 mo. Price $11.50. C. V. Mosby Co., St. Louis. 1927.

Diseases of the Skin by Henry H. Hazen, A. M., M. D. Cloth. 557 pages with 48 illustrations, including 2 color plates. 8 mo. Price $10.00. C. V. Mosby Co., St. Louis. 1927.

Diseases of the Mouth by Sterling V. Mead, D. D. S. Cloth. 559 pages with 274 original illustrations and 29 full page color plates. 8 mo. Price $10.00. C. V. Mosby Co., St. Uouis. 1927.

The Normal Diet by W. D. Sansun, M. S., M. D., F. A. C. P. Cloth. 133 pages. 8 mo. Price $1.50. C. V. Mosby Co., St. Louis. 1927.

It is impossible to state when hookworm disease was first recognized. Some believe that it is depicted on Egyptian papyri as early as 1500 B. C. Dubini discovered and described one species of hookworm, the European, in 1843. Stiles described the American species in 1902 and named it *Necator americanus* (American murderer). Loos, while investigating the disease in Cairo, Egypt, in 1895, accidentally spilled on his hand a few drops of water containing some encysted larvae of the hookworm. He noticed that they disappeared, leaving nothing behind except their sheaths. In 71 days he developed the disease, showing that infestation could take place through the skin. It has since been shown that the skin is nearly, if not always, the portal of entrance. The mode of transmission having been ascertained, methods of prevention were obvious, namely, the prevention of soil pollution with the discharges of the human body; the wearing of shoes and gloves to prevent the skin from coming in contact with polluted soil; and the treatment of persons harboring the hookworm.

If all the discharges from the body were properly disposed of hookworm disease would disappear in a few years. Many cases could be prevented by wearing shoes, indeed the majority, since in most cases infestation occurs through the skin of the feet. Proper treatment has rendered badly infested areas almost, in some instances, entirely free from hookworm disease. Carbon tetrachloride and tetrachlorethylen, introduced by Dr. Hall, a former graduate student of the University of Nebraska, have been more effective in the eradication of the hookworm than other drugs which have been used for this purpose. Malaria and hookworm disease have retarded the economic development and have caused greater physical suffering in the south than have all other diseases combined. Preventive measures which have been put into operation have already alleviated this condition in no small degree. Still greater improvement may be confidently looked for in the not too distant future.

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AGRANULOCYTIC ANGINA AND INFECTIOUS MONONUCLEOSIS*

ADOLPH SACHS, M. D.,
Omaha, Nebr.

Agranulocytic Angina was first described by W. Schultz in 1922. He applied this name to a group of cases with a severe sore throat, and a gangrenous stomatitis that ran with a peculiar leukopenia, the polymorphonuclear leukocytes being markedly reduced or entirely absent. Following this, other cases soon were reported, especially by the Germans. Kastlin, in reviewing the entire literature up to June, 1927, collected forty-three cases. He also reports two cases with full autopsy findings that occurred at the Toronto General Hospital.

This type of infection is probably not a disease entity as described by Leon, but is the failure of the bone marrow to respond to a severe infection of unknown etiology. Agranulocytosis is also found as a terminal infection in certain cases of sepsis, and Hodgkin's Disease.

Several cases of agranulocytic angina have occurred in Omaha during the past few months, and I feel certain that these cases are not especially rare, but in all probability are being called streptococcic sore throats. It will be difficult to determine just how prevalent this disease really is until more men from different localities report their cases.

The clinical picture of an agranulocytic angina is a rather typical one which can be readily diagnosed if a blood count is taken. It usually occurs in middle aged women with negative past histories, but may occur in any individual both young and old. The infection is a virulent one and is usually rapidly fatal; however, some recoveries have been reported. The onset may be sudden with a severe chill or it may start with a sore throat and a general malaise.

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*Read before the Omaha-Douglas County Medical Society, Omaha, Nebraska.

The sore throat is a peculiar one and may be just a slight redness or an edema of the pharynx. The edema rapidly progresses and a gangrenous stomatitis or angina may rapidly follow. The patients appear violently ill out of all proportion to their physical findings. The cervicle and submaxillary glands become enlarged and the temperature rapidly rises to 102 or 103 degrees. The edema of the throat may be very extensive and occasionally produces a swelling of the neck resembling a Ludwig's angina. The edema also extends to the larynx and surrounding structures producing a hoarseness and a dysphagia.

A membrane often accompanies the sore throat and a diphtheria is suspected until negative cultures are found. The membrane looks similar to a Vincent's angina and a foul odor is also present but is usually more marked than in Vincent's angina. The pulse and temperature remain high and shortly before the patient's death a pneumonic patch is usually found.

A leukocyte count is the diagnostic feature and if taken early will immediately help diagnose the disease. A marked leukopenia occurs, the white cells often dropping to 500 per cubic millimeter. The granular elements disappear and a very low polymorphonuclear count is found. A marked anemia does not take place because the disease progresses so rapidly that death may occur in 24 to 48 hours. Some cases may be of longer duration but the typical ones run a rapidly fatal course.

The etiology of this virulent infection is unknown. Vincent's organisms have been found in a large number of cases and are thought by some to bear a definite etiological relationship to the disease, but no definite proof is at hand to show that they cause it. Streptococci, staphylococci, pneumococci, B. coli and various other bacteria have been reported but as yet no definite organism has been proven as the etiologic agent producing this type of infection. Beatrice Lovett of Chicago cultured the B. pyocyaneus from her case and believes that it may possibly be the etiological factor in some cases, because by injecting guinea pigs with this organism she was able to produce a leukopenia with a low poly count in them. Further experiments must substantiate this work before it can be accepted as the etiological organism of this disease. We found a hemolytic streptococcus in our case which will be fully described later.

From a review of the literature of the various organisms found in this disease I feel that agranulocytic angina is a severe infection that may have various etiological factors. It is an infection that apparently attacks our bone marrow in such a manner that our protective polynuclears disappear and are unable to assist in combating the infection.

The autopsy reports of these cases are characteristic of a severe type of infection, and I merely wish to mention that the bone marrow presents a cell-poor structure and is especially conspicuous by the absence of granular cells. The red blood cell germinal centers are normal. The reticulo-endothelial cells are increased in the lymphnodes, the bone marrow, the spleens and the blood. Kastlin reports the endothelial cells in the blood smear as 4% to 8%. Pneumonia is a frequent cause of death and the fibrinous exudate is almost acellular.

All attempts at therapy are hopeless and the treatment is purely symptomatic. Streptococcic serum, diphtheria antitoxin, transfusions and many forms of therapy have been tried but nothing seems to influence the progress of this disease. The suffering is often intense and even opiates do not give the desired relief, but are the only medication that slightly helps the patients bear their misery.

Agranulocytic anginas have a great similarity to a milder group of cases called Infectious Mononucleosis and in all probability both are due to the same etiological factor, the only difference being in the virulence of the infection. Sprunt and Evans coined the term "Infectious Mononucleosis" and reported six cases in the Johns Hopkins Bulletin in 1920. Tidy and Morley and also Morse used the term "Glandular Fever". Downey and McKinley described them as "Acute Lymphadenosis".

This is an infection occuring in young individuals usually under thirty years of age. They may have headache, malaise, sore throat, fever, chills, sweating, abdominal pain, occasionally nausea and vomiting. The fever varies from 101 to 103 and is of the intermittent type, lasting from three days to three weeks. The spleen becomes enlarged, tender, and the leukocytes are moderately increased, varying from 8,000 to 16,000, rarely over 20,000. There is an absolute and relative increase in the mononuclear cells with a decrease in the granular cells.

The case is usually diagnosed an acute lymphatic leukemia, unless a careful study is made of the type of cells present. Infectious mononucleosis usually runs a mild course and they rapidly get well. The fever subsides, the lymph nodes and spleen gradually recede and the blood count gradually returns to normal. Some authors report that the lymph nodes may remain palpable for as long as six months, but most of them disappear in a few weeks.

The diagnosis is rarely difficult when the patient is closely observed over a short period of time, however some cases of Acute Lymphoblastic Leukemia may have remissions similar to pernicious anemia and then the diagnosis is much more complicated. Schenck and Pepper report a case of this character.

The throat cultures in cases of Infectious Mononucleosis show staphylococci, streptococci, micrococcus catarrhalis, and various other bacteria similar to agranulocytic angina. The Vincent's organisms are also commonly found. Bloedorn and Houghton report that they were found in all four of their cases and believe that they may be a factor in the etiology of the disease.

In 1899 Pfeiffer reported an epidemic among children occurring with fever, enlarged glands, enlarged spleen, etc., and called it "Drusenfeiber". J. Park West reported a similar epidemic of glandular fever occuring in Ohio in 1896. These cases closely resemble infectious mononucleosis, except that they occur in epidemic form. Similar infections have caused considerable confusion in the past although they were not given definite names. Cabot, Marchand and Turk reported them as benign lymphoblastosis.

The differential diagnosis between these cases and acute lymphatic leukemia is not difficult if we are able to follow them for a short time. Leukemias run a severe course of longer duration and are usually fatal. They commonly have purpuric spots and other hemorrhages. They also are subject to leukemic infiltrations in the skin as well as other organs. The leukocytes are usually 50,000 or more.

The blood smear shows many immature cells. Infectious mononucleosis runs a mild course of short duration, and rarely presents purpuric spots are other hemorrhages. The leukocytes are usually 8,000 to 16,000, rarely over 20,000. The immature forms are less common than in leukemia and the blood picture alone usually makes the diagnosis. Secondary anemia is usually marked in Leukemia, but is rarely a factor in infections mononucleosis.

Agranulocytic Angina with its fulminating rapid course and characteristic blood counts offers little difficulty in diagnosis if this type of infection is kept in mind. I wish to report a case of agranulocytic angina, with our laboratory findings and experimental animal innoculations, and also a typical case of infectious mononucleosis.

Case 1. Mrs. D. Aged 47. Widow. Date, May 31, 1927.

Family history, negative.

Past history, usual children's diseases. Typhoid, rheumatism, 2 attacks. Tonsillectomy. Otherwise negative.

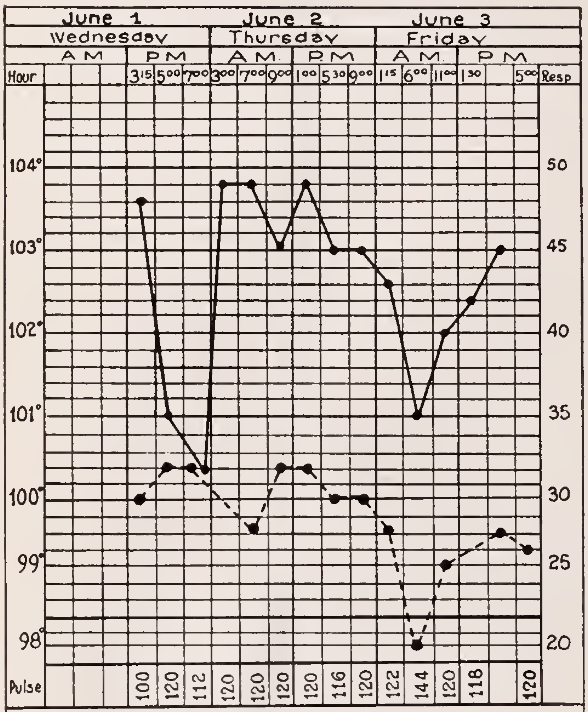
Catamenia: Periods irregular for 3 or 4 years. Last period 3 months ago. Headache severe since menopause started. Otherwise negative.

Present illness: Two weeks prior to her fatal illness this patient was treated for a mild attack of influenza. She had been working especially hard and was exceptionally tired. She made the usual recovery but returned to work sooner than advised.

The patient complained of severe headaches, backache, also insomnia, and for that reason reported to my office on May 31st, 1927, for a general examination. She was to return the following day for laboratory examinations, but was unable to do so on account of taking acutely ill with an attack of sore throat. I saw her at 1 p. m., June 1st, 1927. On examination I found that she had a marked redness of her pharynx, with a beginning edema of the uvula. She complained severely of her throat and her symptoms were out of all proportion to the physical findings. Her temperature was 100°, pulse 90, respiration 24, but her prostration was so marked that I insisted that she go to the hospital at once. She entered the hospital at 3 p. m., and on entrance, her temperature was 103.6, pulse 100, and respiration 32. The edema of her throat was increasing and a hoarseness developed. Her neck was swollen, but no distinct glands could be felt. Her chest was negative; heart negative. Blood pressure 150/90. The abdomen was negative, no spleen palpable and the liver not enlarged. No jaundice was present. One could see that she was getting rapidly worse hour by hour. Her hoarseness increased and also the edema of her pharynx was progressing. Dysphagia was beginning to be a prominent symptom, but she still could swallow liquids. A laryngologist was consulted and local treatment instituted. Codeine and aspirin were given for pain, and the patient was moderately comfortable. At 7 p. m. her temperature dropped to 100°, pulse 112, respiration 30, however, her temperature soon rose, and the following morning, June 2nd, was 103.8°, pulse 120, and respiration 32.

Her throat became more edematous, her dysphagia was more marked, and she was suffering intensely. Nothing seemed to relieve her discomfort. She could no longer gargle and her throat had to be irrigated. Ice water irrigations gave the most relief. A membrane appeared on the posterior pharynx, and a smear and culture was taken. The smear showed no diphtheria organisms, no Vincent's organisms, but numerous streptococci, staphylococci, etc. 20,000 units of diphtheria antitoxin was given because the patient was getting rapidly worse. A leukocyte count was taken each day, as shown in Chart 1. After the second leucocyte count, we felt sure that we were dealing with an agranulocytic angina. We isolated a hemolytic streptococcus from the culture and the same was used for animal innoculation. The patient continued to grow worse. Proctocylsis, hypodermoclysis, opiates, anti-streptococcic serums were used, but no form of therapy seemed to help in any way. She developed some patches of harsh breathing, but no definite areas of consolidation could be detected.

The patient died at 4 p. m., on the 3rd day, exactly 51 hours after her entrance into the hospital. No autopsy was obtained. The following chart will show her temperature curve, and blood counts:



BLOOD COUNT

	June 1	June 2	June 3
Leukocytes	5600	5000	3000
Differential Count:			
Polymorphonuclear Neutrophiles	18%	7%	5%
Small Lymphocytes	41%	52%	35%
Large "	41%	41%	60%

The throat culture of the above described case presented a streptococcus of medium length chains, neither short nor extremely long. The organism was Gram positive and stained easily with most any of the laboratory stains.

The organism became quite resistent following several transplantations, and lived as long as three weeks. It grew most readily at 37.5 degrees centigrade. It was feebly hemolytic when grown on blood agar plates. There was no acid nor gas production when grown on saccharose, Russel's double sugar or maltose, however, there was slight acid formation on lactose. The growth in glucose broth was prolific, flaky in character, and the chains were of intermediate length. No liquifaction of gelatin was observed.

The pathogenicity of this organism was studied on rabbits, guinea pigs, and one rat. The accompanying chart (Chart 2) will show the serial blood counts that were taken. All animals were innoculated intra-peritoneally, and intravenously. Two rabbits were additionally innoculated orally. This was done by scarifying the mucous membrane and injecting a suspension of the organism. The cytological examinations were recorded before innoculation and continued daily to the end of the sixth day.

Twenty-four hours after innoculation, all the animals except the rat, appeared quite ill and were feverish. This was manifested by their fur being roughened and lacking in the usual glossy lustre. They refused to eat, but drank considerable water. They were listless and were quiet, not even responding to mechanical stimulation. At the end of the second and beginning of the third day, the animals became more active, appeared more normal, hopping about, also partaking of more food and less water. The rat appeared to be ill about the third day, but active again on the sixth day.

The guinea pigs continued healthy and active over a period of two months. Six of the seven rabbits died at various periods, and three or four days before death developed a purulent discharge from the nose, refused to eat, became rapidly emaciated and died. About two days before their death, they developed a dysentery and a paralysis of their hind legs. Cultures of the nasal discharge gave almost pure cultures of a Gram negative bacillus. This bacillus produced sugar reactions similar to the typhoid group, but liquified gelatine rapidly. This organism did not produce a soluble or an insoluble pigment, consequently we decided it belonged to the Proteus group.

Cultures were made from the heart, lungs, liver, spleen and kidney of all animals that died, and we were able to recover a streptococcus identical with the original streptococcus from the heart blood of one rabbit.

The autopsies merely showed the usual findings in a severe infection. Although the above experiments offer no direct proof of a streptococcus being the direct causative agent in granulocytic angina, further work of this character will help clarify the etiology of this virulent infection.

Case 2. Infectious Mononucleosis.

Mr. C. C. Aged 19. Single. Student. Date, Nov. 26, 1927.

Complaints: Headaches, sore throat, fatigue, anorexia, insomnia and constipation.

Family history, negative.

Past history: Measles, mumps, whooping cough and rheumatism. Tonsils removed at the age of seven.

Present illness: The patient worked hard as a student. He was going to the university and did well in all of his studies, but came home worn out. He had fatigue, a vague headache, and could not sleep. His throat became sore and, therefore, he was brought in for examination.

On examination we found the cervical, submaxillary, axillary and inguinal lymph nodes enlarged. The spleen was palpable but not tender. His throat was red but no membrane was present. The tonsilar stubs were slightly edematous. His temperature was 100.8°, pulse 100, and respiration 20. The leukocytes showed a count of 20,000 and the patient was sent to the hospital. He made a rapid recovery, the spleen and lymph nodes rapidly grew smaller and the patient left the hospital December 22nd, 1927, feeling quite well.

ANIMAL INNOCULATION USED ON CASE SHOWN ON CHART 1.

Animal		Total Count	Polynuclear	Leukocytes		Lymphocytes		
			Basophiles	Easinophiles	Neutrophiles	Large	Small	Transitionals
RABBIT I	Norm	10000	2	30	2	29	34	3
	24Hrs	9600	17	13	1	27	40	2
	3Days	13000	9	30	1	15	41	4
	6Days	8400	5	20	0	40	25	10
RABBIT II	Norm	12000	30	14	0	10	46	0
	24Hrs	12000	4	21	0	21	54	1
	3Days							
	6Days	8600	6	12	0	56	18	8
RED RABBIT III	Norm	13600	5	40	5	18	30	2
	24Hrs	11000	5	46	8	16	25	0
	3Days	10000	1	28	3	34	29	5
	6Days	9600	4	36	0	42	16	2
Brown RABBIT IV	Norm	11000	8	16	3	22	45	6
	24Hrs	12000	3	34	2	9	52	0
	3Days	9000	0	26	2	11	58	3
	6Days	12000	2	25	0	20	50	3
Red RABBIT V	Norm	12400	1	37	3	19	36	4
	24Hrs	21000	0	35	4	16	44	1
	3Days	12000	0	24	2	27	45	2
	6Days	12000	0	35	0	26	37	2
Brown RABBIT VI	Norm	10400	0	15	14	21	50	0
	24Hrs	8000	8	20	4	56	4	8
	3Days	7600	2	20	0	34	42	2
	6Days	9600	3	56	0	13	26	2
RABBIT VII	Norm	11000	3	12	0	39	46	0
	24Hrs	11500	5	30	0	25	40	0
	3Days	10000	7	28	2	42	12	9
	6Days	9000	8	37	3	24	26	2
Large GUINEA PIG	Norm	8600	1	1	20	46	30	2
	24Hrs	7600	0	1	47	51	0	1
	3Days	6600	0	0	10	58	30	2
	6Days	7600	4	0	18	64	8	6
Small GUINEA PIG	Norm	7000	3	0	24	50	16	7
	24Hrs	6700	0	0	20	34	45	1
	3Days	6000	2	0	28	54	8	8
	6Days	8000	0	0	35	28	37	0
RAT	Norm	9600	0	2	49	19	30	0
	24Hrs	5200	0	3	43	40	13	1
	3Days	7000	0	3	66	26	5	0
	6Days	3000	4	0	15	52	20	9

The following chart will show the blood counts taken while the patient was at the hospital:

Date	11-28-27	11-30-27	12-5-27	12-12-27	12-19-27
Reds	4,184,000	4,400,000			
Hemoglobin	72%	74%			
Whites	20,000	14,000	12,000	9,200	8,800
Polymorph.	23%	32%	30%	40%	34%
Large Lymph.	62%	50%	38%	46%	44%
Small Lymph.	15%	18%	32%	14%	22%

On January 10, 1928, he reported at my office feeling quite well, and his blood count is as follows:

Reds	4,032,000
Hemoglobin	79%
Whites	9,600
Polymorph.	42%
Large Lymph.	42%
Small Lymph.	16%

The patient will continue to report at monthly intervals for further observation until his blood count is entirely normal, however, clinically the patient appears entirely well.

On careful examination the cells at the onset showed immature forms but later as the patient improved, the blood smear assumed a more normal character.

I wish to offer my sincere thanks to Dr. Duffy, Professor of Bacteriology, and Dr. Russum, Professor of Pathology, of Creighton Medical College, for their help and work done on the experimental animals.

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DIABETIC COMA—ITS DIAGNOSIS AND TREATMENT

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The duration of life of the average diabetic patient from 1895 to 1913 was 3.3 years; in 1920, 5.3 years; now, in the first decade of life, that time which in the past carried so high a mortality, the duration of life is doubled(1). The death rate in the United States for diabetes is still 16.4 per hundred thousand of population(2). When we realize that the diabetic patient seldom dies of the disease but of its complications, and that in many instances those complications are preventable, this high mortality rate seems needless. Joslin states that diabetic coma, one of the most common causes of death in diabetics, is a therapeutic accident which should be avoided and that the diabetic who dies of coma dies needlessly.

PRODROMAL SYMPTOMS

No patient develops a diabetic coma suddenly. If a patient is under accurate observation the following prodromal symptoms will be noted:

(1) anorexia, (2) headache, (3) nausea and vomiting, (4) weakness, (5) constipation, (6) hyperpnoea.

These symptoms may be present for days and then, owing to an emotional upset, unusual physical exertion, dietetic excesses, lack of insulin or infection the patient will become comatose and the hyperpnoea will be increased.

CAUSES OF COMA

I. *Infection.* The most common cause of coma is infection. 60% of Joslin's cases since May, 1925, had fever and other evidence of infection. It may be a trifling cold, a slight tonsillitis, a mastoid infection, or a cellulitis. The important thing about it is the frequency with which the infection is overlooked. In six case reports by Frissel and Hajek(3) only one was uncomplicated by infection, and in seven out of nine cases reported by Fraham(4) infection was present. Infection speeds up metabolism, stops appetite and the patient is thrown on his endogenous supply of carbohydrates. The supply of glycogen in the liver and muscles is exhausted early. He then starts burning his fat and protein. "Fat burns in the fire of carbohydrates, in the absence of carbohydrates it smokes." Fats are burned only to the ketone stage and acidosis results.

All cases, therefore, should first be examined for infection, and treatment should be directed toward the infection as well as toward the coma resulting from it.

II. *Exercise.* I question whether exercise alone ever causes coma. According to Joslin exercise alone without excessive food is a rare cause. In the normal individual following prolonged exercise the reserve stores of glycogen in the liver and muscles are exhausted and the alkali reserve of the blood is lowered. Exercise may, therefore, be a contributing cause of coma.

III. *Emotional Upsets.* Emotional upsets, by burning up the glycogen reserve, may be a contributory factor in the development of coma.

IV. *Dietetic Excesses.* By straining a weakened function, dietetic excesses may exhaust the body supply of insulin and leave none for normal metabolism of protein and fat. Dietetic excesses increase glycosuria, which causes polyuria, which in turn causes dehydration and a concentration of the ketone bodies in the blood. Theoretically you have acidosis when the diet is improperly balanced as a result of excessive loss of glucose or when the fatty acid glucose ratio exceeds two to one.

EXAMPLE OF DIETETIC INDISCRETION

(Verbatim ad literim)

Average amount of food ate by Mr. I. E. V. each day for about 7 months before he came to the University hospital:

Breakfast 8 a. m.:

3 eggs.
5 slices bread and butter.
2 cups coffee with 2 spoons sugar in each.

Forenoon (8-12):

(2) ice cream sundaes.
(2 or 3) choc. malt. milks.
(2 or 3) 5c candy bars.
(1) Coca Cola soda water.

Dinner 12 p. m.:

1 roast pork sandwich.
1 chocolate malted milk.
1 piece of pineapple pie al-a-mode.

Afternoon (12-8):

1 roast pork sandwich.
1 cup of coffee and about the same as in the forenoon.

Supper 8 p. m.:

2 or 3 bowls of bean soup.
6 or 7 slices bread and butter.
2 or 3 cups of coffee with 2 or 3 spoons sugar in each.

Evening from (8-12):

5 or 6 ice cream cones.
10 to 15 bottles of soda pop.
5 or 6 bars of candy.

This is the case of his being in the hospital now. List made by Mr. I. E. V., Omaha, Nebraska:

3 meals at 45c apiece $1.35
Miscellaneous 2.55
Total (am.) per day.$3.90

Weekly wages average $12 to $15 or $2.14 per day.

Comment on this example of dietetic indiscretion on the part of a known diabetic is not necessary. The patient has been in a comatose or precomatose condition four times.

DIAGNOSIS

V. *Lack of Insulin.* The deep, rapid, exaggerated respiratory movements not accompanied by cyanosis, so well known by the term Kussmaul airhunger, is a typical finding in over 90% of cases. The breath rapidly takes on a fruity or rotten apple odor which is quite characteristic. Occasional cases, however, do not show it. To overlook this respiratory phenomenon is to allow the patient to rapidly poison himself, as is well evidenced by the following case report:

Marjory M. Age 14.

Diabetic family history. A known diabetic since 1923. Had been under my observation for one year. Developed measles on April 8, 1925, at her home in western Iowa. On April 13th she developed a broncho-pneumonia; on April 14th the insulin and balanced diet she was being given were discontinued on the advice of the physician who saw her. On the fourteenth day deep exaggerated respiratory movements became marked, and were interpreted by her physician as a manifestation of her pneumonia. Sixty hours elapsed from the time hyperpnoea became evident until she entered St. Catherine's Hospital, April 16th, 1925. The blood sugar was 310, urinary sugar 1.36. She was under our care for seven hours. She died—although the urinary sugar was reduced to .2%; acetone and diacetic acid were negative, and the blood sugar was reduced to 180 Mgs.

This case illustrates two of the important etiological factors in the development of diabetic coma, namely: Infection and lack of insulin.

The coma might have been prevented had the physician recognized the advent of acidosis by the changed respiratory rhythm and instead of decreasing the insulin had increased it. It also illustrates the well known fact that coma cases that have continued for long periods still die from some irreversible change in body protoplasm, even though they are rendered urinary sugar free and blood sugar brought to normal.

Richard W. Age 12.
Famiy history of diabetes, an aunt and two cousins having died of the disease. Under treatment for diabetes for a year. Three weeks before he was first seen he had la grippe from which he seemed to recover. Three days before first seen he caught a slight cold. The same evening his breath became labored. His mother, during the time he was ill, had continued the insulin doseage ordinarily necessary but the physician who first saw him considered the comotose condition was due to hypoglycemia and advised against the administration of any more insulin. Twenty-four hours were lost. When he entered the hospital, 1 p. m., March 8th, 1926, his condition was most grave. Blood sugar 287, urinary sugar 3 per cent, acetone and diacetic acid 3 plus.

This case illustrates two of the etiologic factors—first, lack of insulin; second, infection. As a result of heroic doses of insulin plus fluid by mouth, rectum, and under the skin he became conscious at 11:30 p. m. and is still living.

G. W.
A known diabetic for three years, on insulin for past year. Sustained a compound fracture of his left great toe; was taken care of by a surgeon who did not realize the importance of continuing the insulin. He rapidly became comatose without any evidence of infection. Blood sugar, when first seen, was 327, urinary sugar 3 per cent, acetone and diacetic acid 3 plus. 150 units of insulin given in the first 24 hours. Conscious in six hours.

This case illustrates the necessity for co-operation between the surgeon and physician in diabetic cases. It is necessary to recognize the importance of a diabetic complication in a surgical condition such as this to protect the rights of the patient and his family. This case came under the Workmen's Compensation Law. The employer contended that he was not responsible inasmuch as the patient had had diabetes before he received his injury. The Compensation Commissioner ruled otherwise. Joslin reports an interesting case in which the patient died in coma following an accident in which the same contention was made.

DIAGNOSIS

A dry skin, dry mouth and tongue, red lips and cheeks in all coma cases are characteristic findings. Soft or partially collapsed eyeballs, due to dehydration, are easily demonstrated in most cases.

Dehydration results first, from polyuria which in turn is due to the large amount of water extracted from the body to pass the excess of sugar through the kidneys; second from anorexia; third from vomiting, and fourth by the marked water loss as a result of rapid pulmonary ventilation. As the coma progresses the patient takes less and less water and even the endogenous water supply, normally present as the result of the metabolism of fat to water and carbon dioxide, is not now available, the carbohydrates being passed through unused and the fat burning only to the ketone state. The soft eyeballs are a finding which I think should be emphasized. They were an important diagnostic finding in the following case when first seen at her home.

Marion C. Age 14. Under careful diabetic treatment for three years. Developed a slight bronchitis. Anorexia, vomiting, and then as her mother stated, seemed to drop off to sleep. When first seen, 12 hours later, her respirations were deep but not rapid, not unlike the respiration seen in many children in deep sleep. There was no odor or acetone to her breath. Her skin was dry and the eyeballs seemed to be collapsed to three-fourths the normal size. Blood sugar 330, at hospital, urinary sugar 1.2, acetone one plus, diacetic acid two plus. First seen at 3 o'clock, and regained consciousness at ten o'clock after administration of 82 units of insulin.

Fever is not a characteristic symptom of diabetic coma. On the contrary most diabetic patients show normal or subnormal temperatures. The finding of fever with leucocytosis indicates infection, which we must be prepared to combat, for infection increases the acidosis.

THE URINE

High urinary percentages are not necessary for the diagnosis of diabetic coma. In the average case urinary sugar is from 1 to 3 per cent. Coma may be present with lower urinary percentages and on the contrary I have seen one patient with a urinary sugar of twelve per cent, with no evidence of coma. Only six of Joslin's series had 5% or over. The urine gives the maximum red black color reaction with ferric chloride characteristic of diacetic acid. Acetone is usually present in marked degree, although according to Fitz, owing to kidney damage and inability to excrete the ketone bodies, both may be absent from the urine. The literature contains numerous case reports of coma cases without acetone and diacetic acid. Albumin and casts are frequently found owing to renal irritation; these disappear with the disappearance of the acidosis.

BLOOD SUGAR

Blood sugar is usually high, though not necessarily so. The carbon dioxide combining power is usually below fifteen per cent and may be as low as five volumes per cent. If it is above thirty per cent it is well to think of some other cause for the coma or consider the possibility of the previous administration of alkali. The lowering of the alkali-reserve of the blood is due to the fact that aceto-acetic and beta-oxybutyric acid draw the sodium bicarbonate from the blood plasma as it is the most readily available buffer.

DIFFERENTIAL DIAGNOSIS

It would seem from the foregoing that the diagnosis of diabetic coma should be easily made. The following conditions should be considered, however, in each case coming under our observation:

1. Hypoglycemia in a non-diabetic as a result of inanition or in a diabetic as the result of an overdose of insulin.

Mrs. H. Vascular diabetic. Entered the hospital with gangrene of the right foot extending above the ankle. Prepared for surgical treatment with insulin and glucose. Went through the operation nicely and was given insulin following the operation. She suddenly lapsed into coma which was at first thought to be diabetic until a test showed her blood sugar to be 35 mg. She responded promptly to an intravenous glucose injection.

Hypoglycemia should be easily diagnosed if one bears in mind the following points: Rapid pulse, weakness, moist skin, eyeballs normal and pupils dilated, no acetone odor to the breath, marked tremor, followed, and if not treated is followed by convulsions and later by coma. No urinary sugar, blood sugar below 60 mg.

All of these symptoms come on after an overdose of insulin and doses as low as one unit have been known to cause a reaction. We have had a severe hypoglycemia reaction after the administration of three units of Insulin to a patient with a renal glycosuria.

II. In children under five years of age acute infectious diseases are frequently accompanied by coma. Gastrointestinal upsets in children accompanied by vomiting and diarrhea rapidly cause dehydration and acidosis which may closely resemble diabetic coma.

III. Meningitis and encephalitis may present some of the symptoms of diabetic coma and as a result of pressure on the floor of the fourth ventricle may be accompanied by a trace of sugar in the urine.

During 1925 we saw a patient with a typical meningitis showing quite a marked test for sugar in the urine although his urine was previously known to be sugar free. The blood sugar was normal. The history of headache, fever, changes in reflexes, nystagmus, paralysis, and the stertorous respiration instead of air hunger. Blood sugar determinations and spinal puncture should be sufficient to rule out these complications.

Frank B., age 32. Comatose when first seen. Showed .6% urinary sugar and a blood sugar 180 mg. Change in reflexes and retraction of neck made us suspect meningitis. Spinal puncture showed meningococci. Sugar disappeared with improvement of symptoms after intraspinous injections of meningococcus serum.

IV. Uremia. Uremia occurring in older individuals particularly those entering what Joslin calls "the uremic zone" may have both albumin and sugar in the urine and the physician may be at a loss to decide whether he is dealing with a diabetic coma or a uremic coma.

The history of chronic nephritis, convulsions, the urinous odor to the breath, the olyguria and the retinitis which occur in uremia are differential points to be borne in mind. Begg(5) describes a type of diabetic coma with absence or slight acidosis in which the blood sugar and blood urea are high, the urine small in amount, going on to complete anuria,—little or no acetone or diacetic acid and some albumin present, air hunger, absence or slight acetone odor. He speaks of this type as an anuric diabetic coma. Warburg(6) refers to the same condition as diabetic coma with uremia.

The difficulty in diagnosis is well illustrated by the following case:

G. H. Age 34.

Seen at University hospital. A known diabetic for six months. Had gone on a dietetic jag and stopped insulin. When he entered the hospital his urine contained 2 per cent sugar, albumin and casts, acetone and diacetic acid 2 plus. Blood sugar 219 mg., nonprotein nitrogen 145 mg. As a result of 310 units of insulin the following day the blood sugar dropped to 160 mg. and his nonprotein nitrogen had lessened to 140. He was unconscious from 7:15 p. m., February 15th, 1925, to 3:45 p. m., February 16th, 1925, at which time, although his urine was sugar free, his albumin was still 3 plus. We were at a loss at first to decide whether we were dealing with a uremic or a diabetic coma.

V. The patient, with brain tumor, may have a trace of sugar in the urine as the result of pressure on the floor of the fourth ventricle and when comatose the differential diagnosis may be difficult. The history of headache, dizziness, localizing symptoms, choked disks, combined with the respiratory findings will help differentiate the two.

VI. Thrombosis and embolism are occasionally accompanied by a trace of sugar in the urine and may lead to diagnosis of diabetic coma. Foster, in the J. A. M. A., 1925, has reported such a case. The sudden onset with paralysis, the findings on spinal puncture, combined with the history should put one on his guard.

The type of diabetic patient which we have been wont to classify as the vascular diabetic, characterized by a high blood sugar, a high renal threshold, arteriosclerosis, cardio-vascular symptoms, may suffer a cerebral insult and the differential diagnosis may be extremely difficult.

TREATMENT

Prompt action is necessary, first in making the diagnosis, and second in instituting the treatment.

The treatment of diabetic coma varies with the case and varies from hour to hour. No other complication requires the careful watching and clinical judgment as does a diabetic coma in the first twenty-four hours, nor does any complication give the satisfaction one gets in bringing the comatose and practically moribund patient back to life as one so frequently can do with the intelligent use of insulin.

There are three conditions to combat in all cases of diabetic coma: (1) Dessication of tissue, (2) acidosis, (3) myocardial weakness.

COURSE OF TREATMENT

The coma patient is in reality a patient in shock and should be treated as such. The patient should be put to bed and the body should be kept warm. Hypodermics of digifolin and caffeine should be ordered at once and repeated in four hours. The stomach should be washed to remove any food that the patient may have taken previously. 200 c.c. of tap water should be left in the stomach. The bowels should be cleansed with a soap suds enema and normal salt solution should be started at once by the drop method. The patient should be catheterized at once, for coma is frequently complicated by retention. A self-retaining catheter should be kept in place during the coma stage so that the patient's urine may be tested hourly. Fluids should be administered by rectum, by mouth and by hypodermoclysis. For adults one quart of liquid should be given each hour, for children half that amount. Cathartics are not indicated, they cause dehydration and increase dessication. Insulin dosage will vary with the case. In the average case 30 units should be given at once and repeated half-hourly or hourly depending upon change in respiration, urinary sugar and blood sugar. The smallest dose I have found necessary to bring back to consciousness was ten units in a patient who had been unconscious for four hours and a half; the largest 180 units in ten hours. Allen and Sherrill report one case in which 485 units was used in twenty-four hours.

Insulin in coma brings about oxidation processes within the tissues. It utilizes the available glucose in the blood and oxidizes the ketone bodies to carbon dioxide and water, with a consequent liberation of the normal bases, and a diminution of the acidosis. Consciousness returns usually before the patient becomes aglycosuric. With a self-retaining catheter one can vary the insulin dosage from hour to hour. As long as sugar appears in the urine one is safe in using insulin. The urinary sugar test is the best practical control we have. Blood sugar determinations are difficult and take time, but if one has a properly equipped laboratory it will not be necessary to buffer his insulin with orange juice by mouth or glucose by rectum or by vein. Blood sugar is variable and evidently has no definite relation to symptoms for it may be higher after treatment as a result of the administration of glucose. It is a good indicator, however, and a good buffer for the insulin one is using to combat the acidisis. The diabetic coma patient, however, is dying of acidosis and not of hyperglycemia or hypoglycemia, and one must remember he is treading on very dangerous ground, when blood sugar determinations are not available if he does not buffer his insulin for the patient may come out of an acidosis with hyperglycemia and go into a hypoglycemia if he is not carefully watched.

It is impossible to work out an accurate dosage for insulin. One unit per 6 mg. of blood sugar has been recommended but in our experience it varies with the case. Nor can one assume that one unit of insulin will metabolize two grams of sugar for if infection is present this will vary, and in one diabetic individual one unit will metabolize one gram one day, 1.1 gram the next and 2 grams the next day. The use of insulin does not lessen the tolerance of the patient. Williams has reported three diabetic patients who have been in coma a total of eleven times, but have returned to their former metabolic status.

CONCLUSION

Coma is primarily the cause of death in young diabetics. To be able to save or prolong one life is enough compensation to justify one in giving sufficient time to prepare for the recognition and treatment of these cases.

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"Oh, doctor, I have sent for you, certainly; still I must confess that I have not the slightest faith in modern medical science". "Well", said the doctor, "that doesn't matter in the least. You see, a mule has no faith in the veterinary surgeon, and yet he cures him all the same".

CHILD GUIDANCE CLINICS*

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When we hear of a tragedy like the one that took place in an Iowa city the other day, where a fourteen year old junior high school lad took the life of a little six year old girl by strangling after assaulting her, we are shaken to the very depth of our being.

The atrocity of the crime and the pitiful youth of the victim arouse us to a feeling of intense resentment against the murderer. But soon our thoughts and compassion turn to the lad who is no less a pitiable victim, a victim of his own unbridled instincts.

We read that he is starting a life sentence in a state prison and we feel intensely sorry for him.

That feeling has not its origin in a mushy sentimentality, but in a dim unconscious realization that perhaps he is not alone guilty, but that part of his guilt rests on us, on society itself. Have we, his parents, the school and the church neglected nothing that might have prevented such a dreadful thing from happening?

Out of such considerations the idea of child guidance clinics has been born. Even if all behaviour problems of children are not of such tragic seriousness, they are of sufficient importance to engage our most earnest consideration.

All of us who have the privilege to deal much with children, whether as teachers, social workers, physicians, or parents have at some time or another come in contact with children who fail to function smoothly in the environment in which they live. They may be merely retarded in school work, or they are delinquents or quasi delinquents of some kind. Not so very long ago delinquency was apt to be set down as the result of one of several simple causes.

Depending on our prejudices we said that delinquency was due either to original sin or the devil; or to heredity, or to spoiling by an overfond parent, or by too much or too little application of the rod, and other such simplistic explanations which at times have just sufficient truth in them to appeal to minds not too burdened with knowledge and preoccupied with certain theoretical considerations, whether religious, moral or scientific. But in spite of the conscientious application of any or all of the different preventive and corrective measures suggested by the particular point of view of those in charge, the number of children who became delinquent or later criminal, or who developed neurotic or psychotic troubles or who for some reason failed to develop into useful and happy members of society, remained about the same or with the increasing complexity and pressure of modern life which affects alike the mature and immature, appeared even to increase.

The traditional methods failed to bring results and it became evident that we had to begin at the beginning—and that can only be done by the application of the scientific method.

May I take a moment of your time to make clear to ourselves the difference between the traditional and the scientific method of dealing with delinquency or criminality. Apply the traditional method to a matter of every day occurrence and see the absurdity of it. If something goes wrong with your motor car you call in an expert repair man who studies scientifically where the trouble lies, he goes over the ignition system, the carburetor, in short every part of the machine is examined until the trouble is found—then he tries to find the remedy—and only after the thing is beyond repair is it scrapped. But if he handled the problem in the way in which we handle the problem of criminality he would decide on the treatment of your automobile according to the gravity of its offense. If its failure to act right caused you to miss an unimportant social engagement he would call it a misdemeanor and give the car 30 days in the garage, if its failure caused you to miss an important appointment with the resultant loss of thousands of dollars he would call it a felony and give it from 5 to 10 years in the garage. But at the end of the 30 days or the 5 or 10 years he would expect it to be, as the result of this confinement, a good and well acting car.

Now it is this absurd treatment we have meted out from time immemorial to the troubles of mankind, young or old. Theft or arson or any delinquent act according to law is theft or arson and punished as such, although modern psychology and criminology based on modern psychology have shown that the identical act may be the result of quite different situations and mental mechanisms eventuating in maladjustment.

The failure of this time honored, hoary method has led to the establishment of child guidance clinics where problem children can be studied, their troubles analyzed and remedial measures suggested.

We can classify the general run of cases coming to a Child Guidance clinic under a few large groups.

1. Retardation in School. This is most frequently due to mental defect and does not nec-

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*Read before the Nebraska Conference for Social Work, Oct. 10, 1927.

essarily lead to behavior troubles. Dr. Fernald used to point out often that many feeble-minded persons are leading happy and useful lives in the community cared for and protected by their families and friends. In actual practice we find that many other factors often are the cause of retardation. Physical condition, emotional difficulties, interests the objects of which lie outside the academic curriculum may have more to do with it than a low mental age.

The following cases will make clearer this statement:

A colored boy of 15 was referred by the school because having repeated several grades he was doing poor work in the low 6th. He seemed to be exceptionally stupid in the class room. Psychometric tests gave him a mental age of 14½ and IQ of 94. He was graded three years below the average for his age and IQ. He was evidently for some reason not putting forth sufficient effort to do the work of which he was capable intellectually. His social history was good, his parents were intelligent and provided an excellent home.

The physical examination revealed clinical signs of glandular imbalance of the hyperpituitary type, as headaches, extreme height, large hands and feet, etc. To the psychiatrist he revealed that he was not interested in his school work and that he spent most of his time planning mechanical contrivances and that most of his reading was along that line. But although he wished to work and study in this field he was unhappy because he knew his father did not sympathize with these interests and ambitions.

Here we have a physical basis in the pituitary disturbance and a psychological one in this preoccupation with other interests and it would be impossible to say how much of his trouble was due to each. At any rate when he was given proper glandular medication, and at the beginning of the following school year sent to an industrial school, he not only improved in his physical symptoms, headache and lack of energy, and became more contented, but he also did better in his academic subjects and was beginning to take up electrical work.

Case 2. Another boy, 7 years 7 months, was unable to do high second grade work and suspected by his teacher to be mentally defective. Excepting a slight defect of vision the physical examination was negative. His mental age was 7 years 4 months and his IQ 96. But he was an only child, spoiled at home, having few playmates. He said himself he could not get along with the children because they were "too rough." In school he sat and dreamed about play.

The chief cause of this boy's maladjustment in school was that all that is implied in the situation of being an only child. His energies were used up by the effort to adjust to his group and by phantasies concerning the play life with the other children. With a little tutoring in reading and spelling, encouraging play with other children, and his mother promising to relieve as much as possible the "only child" handicap, he was able to soon do better work in school. These are true behavior troubles, depending on maladjustment rather than mental defect.

When retardation is due to mental deficiency it happens at times in the absence of special ungraded classes when the children have reached the limit of their intellectual development in the 6th or 7th grade that they then simply mark time until they reach the legal age for leaving school. If perhaps at the importunities of parents they are pushed on to the 8th or even the 9th grades their failure to make good increases their sense of inferiority which they then attempt to compensate by asocial or antisocial conduct. Only about 20% of the children who come to a child guidance clinic are feebleminded.

2. Next to the children with mental defects are the constitutional psychopaths, the children whose defect lies principally in the emotional and volitional sphere, while their intellectual abilities are uneven, so that while they may be gifted or even brilliant in one ability, they are backward or totally lacking in others. They are exceedingly difficult children to deal with on account of their inability to tell the truth, they glibly make promises and just as easily break them, and the gratification of their own desires is what matters most to them. Here we may find the truant, the thief, the pathological liar, the child sex offender or the child sex pervert.

3. The psychoneurotics form the next class. They are of an unstable nervous make up, the stammerers, with bed wetters, the sufferers from fears and obsessions, with tendencies to dissociation which may show itself in spells.

4. Closely related to this group are the children on the border line of actual mental disease, who suffer from tendencies to seclusion and introversion, to depression often with paranoid trends or with homosexual or other perversions. These children often are of superior intelligence.

5. Children who are sufferers from some organic disease come to the clinic more to seek advice as to what could be done for the relief of their trouble and what type of training would be possible for them, than for behavior trouble. We see here cases of disorders of endocrine glands, birth injuries, etc. The post-encephalitic cases, who belong here, often have conduct disorders.

6. This last group is the most important because the children which belong here are normal or so nearly normal as to be considered such, besides the group is very numerous and finally the outlook for success in attempting to bring about social adjustment is more hopeful. In this group belong all the cases where conflict in school, home, or community has resulted in behavior problems.

I would not have it understood that conflict in itself is the source of maladjustment, because conflict in a world like ours, in any group which struggles to become socialized, is unavoidable. Fundamental instinctive trends of the individual run up against the command of society and conflict results. We must see this clearly that without conflict no true moral conduct is possible. Temptation enters in conflict with principle and without this struggle moral strength cannot develop any more than muscles can develop without strenuous exercise. Locking the pantry to keep the kid from swiping the jam may protect the jam, but does not train Johnny to win out over temptation. Rightly solved conflict results in a balance, without the repression of legitimate urges, but also without their unbridled sway. The child and his larger social group—home, school, community—become one integrated, efficiently functioning organism, where both youth and adults have an opportunity for a satisfying, happy expression.

I should like to tell you a little how the clinic deals with these problem children. It is the special worker—psychiatrically schooled by preference—who starts the study and as the present situation is only the result of all that has gone before, she must, if we wish to understand the child, give us as exhaustive a history as she can obtain and from as many angles as possible.

There is the home itself, the parents, their standard of living, their outlook on life and their own mutual relations. Many a home calm and united outwardly is actually a "broken" home full of strife and discord.

Is the father successful or shiftless—what is his practice as to discipline—is he harsh and fault finding or overindulgent? Does one of the parents, from hatred of the other, undo the good done by him? We also wish to know about the physical and mental evolution of the child from babyhood up. The diseases he has had. Has he progressed at a uniform rate, or have there been periods of standstill or even regression? What are his habits, his interests, his companions? Is he solitary and retiring or timid; or hyperactive and flighty? What have been his attitudes and emotional reactions at home and in school, at play and at work?

Often many people must be interviewed, but the home and the school remain the most important sources of knowledge about the child—only we must try to obtain facts—not opinions or judgments. These are too often misleading—those from the home through excessive partiality, those from school often unfair because the teacher has not the time and often not the training for a detailed study of a child who is nothing but an unmitigated nuisance in her room.

At the clinic the medical examiner will make as thorough and complete an examination as possible. He will have consultations with oculist, throat specialist and dentist, will have blood and other tests made and suggest lines of treatment to correct such defects as are amenable to treatment. For instance, dullness may at times be due to deficient thyroid secretion and this can be cured by the administration of thyroid extract.

The psychologist next by the application of intelligence and performance tests attempts to make an inventory of the child's stock of abilities or disabilities. This means a great deal more than merely determining mental age and I.Q.

The psychiatrist finally studies the mental attitudes and mechanisms that may already have resulted in some maladjustment. He attempts to evaluate the effect of the different influences that the child has been exposed to and, of course, he also looks for symptoms of the presence of actual mental disease.

Finally at a staff conference the results of the different studies that have been made are brought together and the staff tries to make a diagnosis. But this does not merely mean the attaching of a name to the condition, but a description of the different factors that have brought about the present maladjustment and suggestions based on this for future management.

It is safe to say that there is very little opposition to the establishment of a child guidance clinic in this state,—none, I am sure, among people who have at all looked into the subject; those present here at this conference are probably all enthusiastically for it. The main difficulty, I think, is the financial aspect of the work.

Dr. Clinton McCord, Health Director of the Albany schools, makes the statement that every community with a population over 50,000 should have provisions for the study of juvenile delinquents at least, and that such provision should be as definite a part of its civic organization as its hospital, juvenile court or high school. Then Omaha and Lincoln should certainly have such a clinic. In Omaha we are now actively considering the establishment of a child guidance clinic in connection with the dispensary of the Creighton Medical school. We have in the dispensary staff an organization which will be fully able to attend to the medical part of the work. The pediatrician, the oculist, the nasolaryngolist, the x-ray specialist, the neuro-psychiatrist and the laboratory are already there doing the very kind of work that is done at the clinic. A psychologist and at least one psychiatric social worker would be needed. Their combined salary would mount up to $5,500 annually. There is also needed a stenographer to keep the records and a small sum would be required for psychological material, record blanks, etc.

Such a clinic could probably also be installed in Lincoln and at about the same expense, as they could probably make use of space either in one of the school buildings or in the court house or best of all, in connection with the university. There is probably no other city in the state where a permanent clinic could be located. Not so much because the organization could not be gotten together, but on account of the cost. If a clinic in Omaha and perhaps an additional one in Lincoln were to give service to the entire state then it would be necessary to send the most serious behavior cases to one of these cities, just as you send your cases of serious illness to city hospitals. At times this would mean considerable travel—the distance from Alliance, Nebraska, to Lincoln is 366 miles. But there would be other difficulties. In the smaller cities there would probably be no psychiatric social worker to do the necessary field work without which any form of psychiatric work is very unsatisfactory. A great deal of correspondence back and forth would be needed and even then the data obtained would be apt to be fragmentary.

There are other ways that might be selected to give all communities this service which is every year more clearly recognized to be a sore need in our present day social life.

Iowa and Colorado have solved the problem by establishing mobile clinics in connection with their state psychopathic hospitals. I am better acquainted with the work in Colorado and will briefly describe it.*

The Colorado clinic is a part of the State University extension bureau and the Colorado Child Welfare Bureau. The secretary of the extension bureau visits the towns throughout the state for the purpose of presenting the work of the clinic, a printed folder gives every detail in the organization of the clinic. There is also newspaper publicity.

Parents who apply for examination of children are given definite appointments to avoid crowds and confusion. A responsible member of the household—preferably the mother, must accompany the child and they must bring a blanket or bathrobe, as the child will be undressed.

The Child Welfare Bureau of Colorado is responsible for the history taking and printed cards are used for recording all examinations. Under supervision, five or six responsible women from the community fill in information obtained from parents—that is, the names, ages, and addresses of parents and child; illnesses, pre- and post-natal developmental history, health habits, including kind of food, care of teeth and general hygiene; and if the child is in school, present grade, and any grade that has been repeated. The mother takes the card and is directed to the dentist. The teeth are examined and the findings recorded on the card as well as explained to the parents. Instruction as to the future care of the teeth is also given.

Child and mother next visit the oculist, a representative of the State Welfare Bureau or the University extension department. Again findings are recorded and difficulties explained to the parents.

A nurse from the State TB. Association weighs and measures the children. Percentages are worked out as to over- or underweight and the results recorded. The clinic is never taken into a community unless the cooperation of the local physicians has been secured. They are part of the clinic and aid in the physical examinations.

These preliminary examinations having been made and recorded on the card, the child visits the pediatrician who accompanies the clinic and is financed by the Colorado Child Welfare Bureau.

A nurse from the Child Welfare Bureau explains to the parents the physical defects that need attention and copies them on weight, height and diet charts which have been prepared for the parents to take home.

The extension director and the pamphlet distributed at the time of his visit have given the information that a psychiatrist and a psychologist from the Colorado Psy. Hospital will be present to examine children and if necessary, adults. In this work emphasis is placed on behavior problems in children and functional disorders in the adult group. The problems generally are the same as those of the busy city clinic. The principals and teachers have been most interested and it is generally they who refer cases for examination. Whenever possible the clinic is held in the schoolhouse. Classes are dismissed and the teachers help in the general arrangement for examinations.

Whatever plan will be eventually adopted by the people of this state is at the present moment of secondary importance. The immediately necessary thing is for us to inform them as to the need for such an institution, not only in the large cities, but also in the rural communities; problems requiring study and guidance based on such study exist everywhere—to be convinced of that one has but to look at the daily papers.

When the people have once been awakened to that knowledge they will find a way to have what they believe the best for their needs.

Doctors change their methods after they have had a certain amount of experience and practice. Progressive doctors change their methods year after year. They never really graduate. They remain students throughout their entire lives. They are learning every day, and their patients naturally secure the benefit of this vast storehouse of increased knowledge which they secure from a varied experience.

"I see this medicine is good for man or beast".

"Yes", said the druggist.

"Gimme a bottle. I believe that is the right combination for my husband".

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*Role of a Mobile Clinic in the Educational Program of a State Psychopathic Hospital. Elaugh and Lloyd. Mental Hygiene. Vol. XI. No. 2.

RABIES*

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Rabies is an accute, specific, infectious and rapidly fatal disease of all mammalian animals, also birds; characterized by great excitability and mental disturbance, and usually accompanied by extreme violence; hence the name Rabies, to rage, to rave. It almost invariably terminates in paralysis. Hydrophobia is an unsatisfactory name for this disease. The mortality is 100%. The etiological factor still unknown, exists in the central nervous system and in the saliva of rabid animals and almost without exception, infection of man and animals has been due to the fact that this infection has entered the system through a wound or abrasion, caused by the bite and the saliva, introduced by the teeth of a rabid dog. If dogs can be prevented from biting, rabies will soon cease to exist, excepting in those countries where wild animals such as wolves, foxes, jackals and other wild animals play an important part. Rabies and its contagious nature was known 400 years before Christ's time. Aristotle wrote "Dogs suffer from madness which puts them in a state of fury and animals which they bite when in this condition, likewise become mad." Descriptions of the disease were recorded in the works of the very early writers. The disease in humans was first recorded by Celsus in the first century A. D. Chronological reports of outbreaks have been given, on down through the centuries to the present time. The saliva of the rabid dog was demonstrated by inoculation experiments, to be infectus in 1804, also in 1813 that of herboriva, and on humans in 1830. Rabies naturally occurs in those countries having a large dog population, and in which the dogs are unrestrained by law compelling muzzling and quarantine. Norway, Sweden and Denmark have not known the disease in 50 years. It has also been eradicated from Switzerland and England. It has never been known in Australia where strange dogs are quarantined for six months. In North America rabies exists in Mexico, Cuba, Canada and widely in the United States, where it has existed for a century and a half. It is impossible to get accurate figures on deaths from rabies in the United States owing to the different and lax laws in the various states. Thirty-six deaths in humans were reported in 1916, being the lowest since 1900. Six hundred sixty-two deaths were reported for the five years including 1922, in the registration area, all obtained by the various methods of diagnosis, namely, by a clear history of a bite by a rabid dog and subsequent typical symptoms—by the presence of Negri bodies, by lesions in gasserian ganglia—and by animal inoculation. Probably in the western United States the rabid coyote is the worst offender; he attacking people as well as domestic animals. The states of California, Idaho, Nevada, Washington and Utah instituted a general campaign of destruction wherein more than 30,000 wolves and coyotes were destroyed in the five years ending 1919, since which time there have been almost no cases of rabies in that territory. The specific cause of rabies is still unknown or at least not sufficiently proven to be convincing. In 1903 Negri, an Italian, found certain inclusions in the cells of the central nervous system; also in the large cells of the hippocampus major and the Purkinje cells of the cerebellum. These inclusions, Negri bodies, are said to vary widely in size and shape, from almost invisible dots to bodies 25 micra in diameter and were considered to be protozoa; whether they are simple products of degeneration or specific parasites, the fact remains that they are present, and is said to be absolutely diagnostic of rabies. The virus of rabies is always found throughout the central nervous system of the rabid, of man and animals, also always found in the saliva and salivary glands, and some parts of the viscera. The viability of virus is easily destroyed; 1:1000 bichloride solution in one hour, 1% creolin destroys it in a few minutes. Formaldehyde is especially active against the virus 1/100 of 1% killing it on one hour exposure to fixed virus. The virus of rabies, does not stand heat. Fifty degrees centigrade killing it in one hour. The brain and spinal cord of a rabbit dead of rabies, dried in the air, gradually loses its virulence, and this fact is the basis of the Pasteur prophylactic treatment. Virulence of dry saliva retains its activity for 10 or 15 days. Virulence remains for a month in far advanced putrifaction. The fresh virus from a rabid animal is called street virus. That produced from the dried brain and cords from the laboratory animals fixed virus. The natural infection almost without exception is due to the saliva of a rabid animal, gaining access to the system through a wound of some sort. And in the vast majority of cases is due in this country, to the bite of a rabid dog—ninety per cent of all cases being from dogs. It is possible to become infected at autopsies of rabid animals through accident. Dogs may become infected by lapping the saliva of a rabid dog, and from drinking from the water-pan of such dog, all of which is of little importance compared to the bite of a rabid animal. A question of time when the saliva is infectious cannot be definitely answered. Experiments have proven that the virus exists in the saliva from three to fourteen days before any symptoms develop; so if the suspected dog is quarantined for two or three weeks and no symptoms develop there is little danger of the person or animal bitten becoming rabid. The position and severity of the bite has much to do with the development of rabies. Bites on parts protected by clothing being less dangerous. The clothing wiping off the saliva. Hands and face being nearer the brain and unprotected with clothing are most dangerous. The deep incisive and punctured wounds are much more dangerous than the scratches and abrasions. The virus is supposed to be carried to the brain through the lymph spaces along the course of the nerves. The question as to the frequency of the rabies developing in those humans bitten by a rabid animal cannot definitely be answered. It being evident that the saliva is more or less wiped off from the teeth passing into the clad portions of the body, also that the severe bites causing deep wounds and lacerations are more dangerous than slight wounds and abrasions, multiple wounds and the location of the wounds, also those shallow scratches easily washed, all go to make a wide diversion of opinion. The conclusions of many observers and experimenters place the percentage at 15% as a reasonable average for a human not treated with the Pasteur prophylactic. The immediate treatment of bites is said to be very important. All this should be done as soon after the bite is received as possible, which consists of washing, purging and squeezing the wound and cauterizing with nitric acid, caustic soda, or formalydahyde. The period of incubation varies greatly, some cases have been observed as early as seven days and others after one year or even longer, so it is impossible to make any definite statement. The symptoms of rabies in dogs is said to follow two very different lines and is described and called furious rabies and dumb rabies. Furious rabies is first noticed by a marked change in the temperment and habits. The cheerful, playful dog becomes morose, sullen and soon acts sick, he refuses to eat and soon passes to the second stage, that of irritability and excitability, he sets up the peculiar melancholy howl, bites sticks and stones, and everything he can reach, in fact, he begins to rage, to run about biting everything in his path. He never refuses water, often swimming across rivers with frothing saliva drooling from his mouth, trying to drink but swallowing very little. He rages and travels from place to place biting and snaping. There is no fear of water but he is unable to swallow any liquids by reason of the spasmodic contraction of the muscles of deglutition; as he wanders about the paralysis is progressing from the hind parts to a complete paralysis when he finally lies down and dies. Dumb rabies is about the same as the original form minus the stage of excitation. It is also called the paralytic form.

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*Read before the Hall County Medical Society.

In our recent case, at the Soldiers' Home, the dog was a 45-pound six year old dog of mixed ancestory, raised as a pet and brought to the home by an employee. The man came to me and reported the dog was probably poisoned. The dog layed around for three or four days when he developed the stage of excitement on January 17. That evening he bit three people, a woman 50 years old, a young man 26 years old, and a little girl 9 years old. All had severe punctured wounds on the legs. The wounds were multiple, being 3, 5 and 6. The head was sent to the state laboratory with the return of positive rabies. All have taken the Pasteur prophylactic treatment of 14 doses at 24-hour intervals.

The symptoms in man passes through the three stages as shown in the dog. A few days of lassitude, depression, mailaise, itching, numbness, and pain, at the seat of the bite wound, slight thirst with fever, later excitability, spasmodic contractions of the throat, delusions and delirium. The stage of excitement is now on, and all symptoms gradually increase in severity. The expression is one of dread and terror. There is great thirst and the swallowing of water brings on the spasmodic contraction of the muscles of the throat as also the muscles of respiration; causing panting for breath, causing the patient to dread water, hence the name hydrophobia, but there is no fear of water for attempts to drink any fluid brings on the spasms still increasing in severity. Convulsions, the tenacious mucus in the throat and the spasm of the muscles, cause the patient to produce peculiar unnatural sounds, give rise to the appearance of the barking, growling and other sounds of a dog. Spasms may resemble tetanus with marked opisthotonus; and death frequently occurs at this period. Delirious attacks are frequent, when the patient attempts to injure himself and attendants, even by biting. All this continuing for two or three days when death terminates the scene in a paroxysm, or by the ascending paralysis, producing exhaustion and coma. The diagnosis in the human should be fairly made by the history of the case which should be thoroughly considered from every angle. Woodhead says the only diseases to eliminate are hysteria, insanity, tetanus and Landry's paralysis. Hysteria after a dog bite simulating rabies is the so-called psudo or lyssiaphobia. Numerous writers are of the opinion that all cases of recovery of rabies is lyssiaphobia. There is no cure for rabies, once symptoms have appeared, and all treatment is only paliative to try to relieve the suffering of the pitiful patient, by means of narcotics, chloroform, chloral with restraint to protect the patient from injuring himself and attendants. A darkened room, no drafts of air, no noise. As there is no cure for this disease so magic, myth, superstition, charm and appeals to supernatural powers have had full sway. So then our only hope is the prophylactic treatment as discovered and given to the world by Louis Pasteur, which as you know consists of a vaccine of the fixed virus of a unit of known strength from the brain and cord of a rabbit, the first rabbit being inoculated with street virus. The inoculations being carried down to the 60th or even the 90th animal. The virus increases, strange to say, in virulence and is controlled by freezing and drying until the proper unit is reached. There is no great change today in Pasteur's treatment, only in mode of preparation, purification, etc., due to the advanced methods of preparation by the manufacturer.

Louis Pasteur was born in 1822 in a small town in France. His parents belonged to the respectable lower class of society, that class from which always has come a great many great men. When he was nine years old he saw a man bitten by a wolf, rushed to the village blacksmith where he saw the searing of the wound, with a whitehot iron. Pasteur never forgot the shreaks of agony of the wretched man. Always afterwards he had in mind to do something for those bitten by rabid animals. When he was 26 years old he was made professor at Strassberg and had a laboratory of his own. He discovered the vaccine of Anthrax in 1881 and in 1885 did his first vaccination on a boy 19 years old with 14 deep wounds from a rabid dog. The boy took 14 doses of the vaccine and was saved. Then came 19 moujiks from Russia all mangled and torn by a rabid wolf. They had been ten days on the road, all but two were saved. Pasteur's fame went worldwide. The Czar of all the Russias sent him the diamond cross of Saint Anna and 100,000 francs to start the present Pasteur Institute in Paris. Then the word went out and from all over the world came letters of congratulations. It was no flash of inspiration that gave Pasteur these brilliant and wonderful results. They came only after years of patient enduring toil and experimentation. He was an old man at 62. More orders came for the vaccine than the laboratory could produce. No wonder he should indulge in a great dream, that of establishing a Pasteur Institute in every large city in the world, and over 40 were established and are still in existance, but Pasteur was an old man worn with work and in 1895 he died in his little home just outside of Paris. In time the sculptor, on the Pillar of Fame, will chisel the name of Louis Pasteur beside that of Wm. Harvey, Goethe, and Humboldt. He was the father of bacteriology.

SOME OF THE PRESENT CENTURY ADVANCES IN PREVENTIVE MEDICINE*

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In discussing present advances in preventive medicine I shall limit myself to the consideration of six or seven communicable diseases. Of bacterial diseases typhoid fever is selected as a particularly good illustration of a communicable infection in which marvellous results have been accomplished. In 1908 Mr. George A. Johnson of Chicago introduced chlorinated lime as a practical disinfectant for the disinfection of water. The incident which led to its introduction was the failure to remove odors by filtration from the discharges of the Chicago stock yards which emptied into Bubbly Creek. By the use of dilute chlorinated lime the nuisance was abated. When chlorinated lime or sodium hypochlorite is used its effectiveness depends upon the amount of available free chlorine present in the chemical selected. In a short time chlorination of public water supplies began to be introduced. Its introduction was slow at first but as the years have passed its use has increased quite rapidly. In 1912 liquid chlorine was first used at Niagara Falls. Since that time, municipal liquid chlorine plants have been installed in approximately 10,000 cities in the United States and Canada. About 90% of the drinking water supplies to these cities is chlorinated. No other method of disinfecting municipal water supplies is employed to any considerable extent. In some swimming pools ultraviolet rays and ozone are used with more or less success. Advances in the treatment and disposal of sewage, inspection of foodstuffs and the pasteurization of milk have also contributed in the prevention of typhoid fever. Antityphoid vaccination, however, has been found to be of greater value than all other preventive measures combined.

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*Radio address broadcasted from Lincoln recently.

Although anti-typhoid vaccines were used by the English and Germans in 1896 their administration in any considerable quantity did not take place until 1900 when Wright and Leishman vaccinated nearly 100,000 British troops during the Boer War in South Africa. The year 1909 was the first time that anti-typhoid vaccine was used to any considerable extent in the United States army. To understand what has been accomplished since then it will be necessary to digress and discuss typhoid incidence and mortality in armies during actual warfare. For the first time in history the Japanese, in 1904, in the Russo-Japanese War suffered fewer losses from deaths due to disease than deaths directly due to the implements of war. In all wars previous to this one the deaths from disease surpassed in numbers those due to wounds. In some wars disease caused twice a many deaths as wounds. In the Crimean War 60% of all deaths were due to typhoid fever. In most of the wars of any length which have occurred since then the number of deaths from typhoid fever has been relatively as large.

During the Spanish-American War of 1898, of the 107,973 men of the United States army, 20,738 contracted typhoid fever and of this number 1,580 died; 19.2% or nearly one of every five being infected, and of those ill the death rate was 7.8%, of the entire army 1.5%. In the World War the United States furnished about 4,000,000 troops. From April, 1917, to November, 1919, there were 1056 cases of typhoid fever in the United States army with 156 deaths. The percentage of cases would be 0.00026%, of deaths 0.000039%. It is no exaggeration to say that practically all the lowering of incidence and death from typhoid fever was due to anti-typhoid vaccination. Such a record as this demonstrates the extraordinary value of anti-typhoid vaccine in the prevention of typhoid fever.

During the past fifty years the death rate from tuberculosis in the United States per 100,000 of the population has progressively decreased. This decrease has occurred in spite of the fact that nothing of specific nature has been discovered either for the treatment or prevention of tuberculosis. In 1880, 326.2 persons out of every 100,000 of the population died of this disease. At the present time the death rate per 100,000 is 90 or less. From these figures it may be observed that the death rate today is less than 0.3 that of 1880. This decrease has resulted for the most part through the practical application of information which has been imparted to the people quite generally during the present century. A similar dissemination of information concerning other diseases would probably lead to comparable results.

Nearly everyone today knows about the enormous value of diphtheria antitoxin in the treatment of diphtheria. Many do not know about, or at least do not appreciate, the even greater value of vaccination for the prevention of diphtheria. Schick, in 1913, published a description of a simple clinical test by which this can be accurately accomplished. The reaction depends on the local irritant action of minute quantities of diphtheria toxin when injected intracutaneously. If antitoxin is absent or present only in amounts insufficient for protection from diphtheria, a positive reaction will appear in from twenty-four to ninety-six hours. All of those who react positively to this test should be vaccinated. Those in whom the test is negative are not susceptible to the disease and hence do not require vaccination. Those who give a positive reaction should receive at least three inoculations of the toxin-antitoxin mixture, with intervals of a week between the inoculations. All of those vaccinated responding positively to the Schick test at the end of the sixth month following vaccination should be re-vaccinated. The immunity secured by vaccination is greater than that which follows recovery from an actual case of diphtheria. In scarlet fever, the Dick and Dick reaction shows in a similar way the presence or absence of susceptibility to this disease. Vaccination has not as yet proved to be as valuable in scarlet fever as it has in diphtheria but there is reason to hope that a more efficient vaccine may be produced in the future.

All of the diseases which have thus far been considered are caused by bacteria. Let us now discuss some of the animal parasitic diseases. This discussion will necessarily be brief but its brevity is in inverse proportion to the importance of these diseases, since they are widespread and cause much suffering and many deaths. In the past these diseases, namely, malaria and yellow fever, of protozoal origin, and uncinariasis or hookworm disease, due to infestation by the hookworm, have caused and are still causing great economic loss not only to America but to the rest of the world as well.

In 1880, Laveran, a French army surgeon, while stationed at Bone in Algeria, discovered a parasite in the red blood cells of malaria patients which was not present in the blood of other persons. On the 8th of July, 1898, Ross, a British army surgeon, traced the passage of the malaria parasite from the stomach of an

Anopheles mosquito, which had obtained some blood from a malaria patient two weeks previously, to its entrance into the salivary gland of the mosquito. Ross was able to follow the parasites during their journey from the stomach to the thorax and from thence to the salivary glands. The common duct of this gland enters the base of the median stylet or stabbing process of the mosquito's proboscis. Malaria parasites were shown to be injected into the wound produced by biting together with the irritating fluid secreted by this insect. In 1900 Manson and Warren completed the evidence of malaria transmission to man. They subjected themselves to the bites of infected mosquitos, imported from Italy in cages, and as a result contracted malarial fever. The discovery of the cause and of the mode of its transmission pointed to the course to be pursued in its prevention. Many devices have been introduced for the prevention of malaria since 1900. Of these, mention should be made of screening, killing the adult mosquito through the draining and filling of swamps and other mosquito breeding places, destruction of the larvae by the introduction of top minnows and some other small fishes, by oiling, and by the use of larvicides. Quite as important as the methods used for the destruction of the mosquito is the administration of quinine both for the prevention and treatment of the disease. It is probable that the destruction of the malaria parasite in the blood of patients and carriers is of greater value than the prophylactic use of quinine as a means of preventing the spread of malaria. Every individual in whose blood the malaria parasite is present is a source of infection. If the patient or carrier is not effectively treated the parasite remains in his blood for a long and indefinite time. Treatment with quinine destroys the parasites in the vast majority of those who harbor them. Curing the disease and destroying the parasites in carriers is, therefore, a very important preventive measure. In an area of 100 square miles in Sunflower county, Mississippi, with a population of about 9,000 people, a complete survey was made and all those found infected with malaria were treated. A re-survey made during 1919, approximately twelve months from the date of the first survey, showed a reduction of 89.9% in the incidence of malaria in this area. The value of quinine treatment as a means of preventing malaria needs no further comment.

In 1900 Surgeon General Sternberg, of the Medical Corps of the United States Army, appointed a commission to study sanitary conditions in Cuba. The immediate reason for appointing this commission was the prevalence of malaria and the dangers of yellow fever in the troops stationed here following the Spanish-American War. The commission was placed under the command of Major Walter Reed, Surgeon, U. S. Army. Associated with him were Drs. James Carroll, Jesse W. Lazear and Aristides Agramonte. Agramonte is the only member of this commission who is still alive. The commission began its work in August, 1900. Volunteers allowed themselves to be bitten by the *Aedes egyptus* mosquito, which was believed by Reed and others to be the means through which the disease was transmitted from man to man. The *Aedes egyptus* mosquito was first allowed to bite yellow fever patients and was subsequently transferred to normal men who had never had yellow fever. After numerous experiments it was discovered that the female alone transmitted the disease. It was also discovered that yellow fever patints could only infect mosquitos during the first three days, rarely five days, of their disease. It was further ascertained that at least twelve days must elapse, after the mosquito has bitten a yellow fever patient, before it is capable of transmitting infection to a normal person. Carroll was the first volunteer to become infected. On the 27th of August, 1900, Carroll allowed himself to be bitten by a mosquito reared in the laboratory which the commission established. This insect had previously fed on four yellow fever patients, one of whom had been bitten *twelve days previously*. Carroll developed a well-marked case of yellow fever on August 31, 1900, from which he subsequently recovered. Carroll died on March 9, 1907, of myocarditis, which had undoubtedly been brought on through the previous attack of yellow fever. Lazear was bitten on the hand by a mosquito in a yellow fever ward on September 13th, became ill on the 18th, and died on the 25th of September, 1900, of yellow fever. Walter Reed died in Washington on November 22, 1902, following an operation for protracted appendicitis. Subsequent developments in preventive measures have enabled sanitarians to drive yellow fever out of North America and from nearly all other parts of the world. Today it only exists in small areas in Brazil and Colombia and on the West Coast of Africa.

It is impossible to state when hookworm disease was first recognized. Some believe that it is depicted on Egyptian papyri as early as 1500 B. C. Dubini discovered and described one species of hookworm, the European, in 1843. Stiles described the American species in 1902 and named it *Necator americanus* (American murderer). Loos, while investigating the disease in Cairo, Egypt, in 1895, accidentally spilled on his hand a few drops of water containing some encysted larvae of the hookworm. He noticed that they disappeared, leaving nothing behind except their sheaths. In 71 days he developed the disease, showing that infestation could take place through the skin. It has since been shown that the skin is nearly, if not always, the portal of entrance. The mode of transmission having been ascertained, methods of prevention were obvious, namely, the prevention of soil pollution with the discharges of the human body; the wearing of shoes and gloves to prevent the skin from coming in contact with polluted soil; and the treatment of persons harboring the hookworm.

If all the discharges from the body were properly disposed of hookworm disease would disappear in a few years. Many cases could be prevented by wearing shoes, indeed the majority, since in most cases infestation occurs through the skin of the feet. Proper treatment has rendered badly infested areas almost, in some instances, entirely free from hookworm disease. Carbon tetrachloride and tetrachlorethylen, introduced by Dr. Hall, a former graduate student of the University of Nebraska, have been more effective in the eradication of the hookworm than other drugs which have been used for this purpose. Malaria and hookworm disease have retarded the economic development and have caused greater physical suffering in the south than have all other diseases combined. Preventive measures which have been put into operation have already alleviated this condition in no small degree. Still greater improvement may be confidently looked for in the not too distant future.

FUNDAMENTALS OF PUBLIC HEALTH

HENRY FARRELL, M. D.,
City Physician,
Kearney, Nebr.

It is worth while, do you not think so, to scan the present horizon of public health activities and look a little way into the future? What I am mostly concerned in at this time and the subject matter addressed is the nation-wide health movement and effective health activities in our grade schools with no especial mention of high schools and universities. Of course, that which concerns the youth must, necessarily, apply later on to the student in high school and university. But I am particularly interested with the children in the grades because youth is such a fragile thing and the habits formed in early life, and childhood impressions, are ofttimes tenacious. These children are capable of holding or retaining only so far as their physical and mental well being will permit. In taking up this question one is obliged to consider three important phases, namely, the mental, physical and educational training. The mental phase in the status of a boy or girl from the 5th to the 12th year of life is of tremendous importance, and, that you may not lose sight of one important fact, I want to call your attention and assure you that the future physical and mental well-being of a child is, after all, in many instances, a matter of heredity. Permit me, if you will, to give an illustration of just what I mean: You who are familiar with the dealings of the board of trade in our great grain centers know that these men deal in what is known as "futures", that is, they buy, sell and trade in food stuffs, many times before the seed is planted and for the most part before the harvest; and I have often thought that if we could have a care and deal in an intelligent way (with little if any chance of a gamble) in the "futures" relative to off-spring and think in terms of the CHILD THAT IS TO BE, great strides could be made for the future well-being physically and mentally of the unborn generation. The study of eugenics may appear as a fad to some and no doubt human history disproves many of its conclusions but there is just one thing of which you may be certain—and you can't laugh it off, or pray otherwise—which common observation leads me to believe: No man or woman can give or pass on to a child anymore than they got. I merely state this opinion here for what it is worth, after many years of close observation and careful study, and believe me, I am not unmindful of the progress being made by our various health organizations throughout the country for the future betterment of the living child. But it must be remembered and understood that unless the child has the mental capacity to grasp, assimilate and cling to this material physical education you are trying to impart, yours is a case of "love's labor lost", and a waste of fragrance on the neuropathic air. In the end, of course, you have the calm assurance of performing "The greatest of these" and in proportion to your endeavors your Christ-like blessings are manifold. I would not have you think I am a pessimist in the slighest, but it seems to me in these current days that as a profession we are too socialistically inclined, too free in spending our hard-earned knowledge, and too enthusiastic in more ways than one along the lines of public health and preventive medicine. Mediocrity is stealing our thunder and we are slowly drifting down the river of immunism into a sea of state medicine and what is more, leaving the dear old general practitioner on an isolated island calling for a life line. State medicine is offensive enough but the limit is reached with a bureau and government regulations at Washington. Not long since we had the spectacle of a state officer criticizing the Journal of the American Medical Association because the editors were not in sympathy with that political miscarriage known as the Shepard-Towner Act. The amount of information, different and indifferent, imparted daily to a large public audience in regards to child welfare, pre and postpartum, care of the mother, pre-school and school age, by the press, government literature, Red Cross nurses, Parent-Teacher associations, health supervisors and from the rostrum, is simply bewildering, and financially, to the unconscious tax payer, the sum total is staggering. All this should be cut down to an intelligent minimum if such a thing is possible. There is a middle ground here for the public health officer in working out an efficient school health service and that is to have a commanding influence with the teachers and health supervisor and formulate a plan of simple administration for the promotion of health and normal growth. To my mind, this is simple and easy of accomplishment, providing you have the intelligent co-operation of the school boards, superintendents, principals, teachers and parents who are deeply concerned in the matter and willing to lend their efforts for an efficient school health administration. Without the aid of outside agencies (and there are altogether too many at the present time) every teacher should be in a position to impress in our boys and girls simple health habits and note for correction a physical handicap which may be either actual or potential; give them, by means of sound and wisely planned instruction, a general idea and understanding of the fundamental principles of health promotion and disease prevention and much will be accomplished towards solving our public health program. At present there are too many more or less independent agencies at work with a multiplicity of bureaus and clinics and each one has, or seems to have, a health program to put over many times impractical. It is right and just to help and assist the poor and needy child, but children of the middle and upper class in need of medical attention should be directed to their attending physician, not necessarily to a public health director or city physician for services gratis. A well trained school nurse can easily see and attend this fine point of discrimination which begins and ends with the education of the parents.

If we keep on at the rate we are going, preaching the doctrine of immunity with vaccines and serums, we will have just two of the professional class in this country and they shall be known as D. H. P.'s and specialists—Red Cross Nurses inclusive. Not every child with an enlarged tonsil and a fragment of an adenoid is in need of a tonsillectomy and a slightly indistinct Snellen test chart at 20 feet is not always a sure requirement for glasses; but let this seeming pathology or physical defect be determined by a qualified physician and not to the random judgment of the physical director or school nurse.

I have no criticism to make with those who seem to be over-enthusiastic in this matter of prevention but here in my city of 10,000 with 1,500 children in the grades as city physician, I have reported just seven cases of diphtheria in the past three years with no mortality as far as I know, and I see no great advantage at this time in shooting the Schick. As well give the triple typhoid to the adult population for a possible future pollution of the water stream or milk supply; or, if you wish, a yearly immunizing dose of pertussis bacterin to the children of pre-school age; or the S. S. F. vaccine as a prevention for the common cold. You say this last mentioned vaccine is of doubtful value but that the Schick test and immunizing toxin-antitoxin dose is positive. Sure, I grant you that, but you must see and realize there is no limit to this collossal undertaking of ours of world wide philanthropy in the care and prevention of human ills. You never heard of a Floto relating how to keep away from the circus, or a Duke on the ill effects of nicotine, or an Ince discouraging screen attendance, or a Red Cross officer weeping over the yearly budget. They preach but one slogan, "Who pays the price gets the goods''. For the edification of our children we pay health clowns a good price for yearly visits to our Normal and public schools and while most of their remarks are comical, some of them border on the obsurd. Which makes me think of Bill Nye's short address on health to a crowd of cowboys at Cheyenne: "Obstain from pie and avoid the night air". To my knowledge, nothing in this wide world of ours, WORTH WHILE is free, except the advice of honored physicians. We should give study for the future; impart information not always at a personal sacrifice, or "art for arts sake".

And now let me convey to you what I believe to be the fundamentals or rather what I consider the essentials of public health. The ease with which the duties can be performed by a public health officer to my mind is simple and easy and it does not make much difference whether it is in a city of 10,000 or a million inhabitants. Given a good clean milk and water supply and that is the first essential and imperative, your public health officer must be well grounded and have a thorough knowledge of the bacteriology of the affair. Perhaps the most important, and of greater significance than any other single factor is the control of the communicable disease. To a lesser degree, but of some importance, is the control of inflammatory skin diseases such as the tineas, and the scabies; but cleanliness in the home and the judicious employment of the well-known therapy will eliminate most of these cases. The one great secret I would leave with you and to my mind the most fundamental, is the control of the sputum-borne disease. It is the quintessence of public health applied to the school room. The duties of a public health supervisor would be negligible were it not for the spread of communicable diseases, and their prevention and elimination is the grand finale to the peace and tranquility of school and home life. The main point to bear in mind is that these diseases are sputum-borne; they are not air-borne, and not dust-borne; and fomites of any kind play a relatively unimportant part. This last thought alone referring to the mode of conveyance or transmission by contact, if considered intelligently by our physicians and health officers, would save the various states thousands of dollars yearly in the performance of unnecessary and useless fumigation of our homes, school houses, and public buildings. What is more, the old fears, superstitions and humiliations in reference to communicability would vanish in a day, and we could be free to come into and go out of our homes as we pleased and at our leisure, and the mother and breadwinner would not be under the constant scrutiny of the well-meaning but ill-advised neighbor who calls up the health officer or police station whenever there is the slightest fracture of the quarantine regulations. Please remember that persons, not things, harbor, transmit and disseminate bacteria and that the spread of infection is by contact with carriers. Of real importance is the early recognition of the disease, isolation, individual quarantine, concurrent disinfection and control of carriers. Every child or individual having a communicable disease should be isolated until recovery takes place and if this is done the transmission or spread of infection is lessened and brought down to a minimum.

Let me say in conclusion that on the whole throughout the country, ours, as a profession, is a case of too much paternalism. The concerted effort by well-meaning but over-enthusiastic public health officers to immunize practically twenty million children in a nation-wide campaign to abolish diphtheria, to my mind places an unreasonable and unnecessary burden on the regular doctors of the various states and communities. Rather an early diagnosis with prompt use of the serum and education as to transmission by contact.

THE VALUE OF YOUR CLINICAL LABORATORY EXAMINATIONS

RODNEY K. JOHNSON, M. D.,
Friend, Nebr.

There are two sources of error in the application of laboratory methods to diagnosis: First, due to the methods themselves or faulty technic in their use, and second, those due to inaccurate reasoning from accurate results. Much that I shall say is familiar to you and will bring back to you the drudgery of your laboratory school day—to a few the keen pleasure of hunting for and often finding pathology in the test tube, under the microscope and in the gross specimens which many of us neglect in these times. The field is a very large one, for there are many different forms of technique, that give the same results.

It is not my intent to go into any detail unless to illustrate a point. I do want to touch in general the most common laboratory tests that we of the smaller cities and towns are expected to do ourselves in our daily practice.

The sputum: This, strictly speaking, should be material coming from the respiratory passages and of laryngeal, bronchial or alveolar origin. All too often it is contaminated with nasal and oral secretions and these will defeat the purpose of your examination which is too often limited to the search for two specific organisms, pneumococci and tubercle bacilli.

Regarding the examination for tubercle bacilli I must emphasize clean containers and sputum raised deep from the chest and selection of the little gray cheesy particles and muco-purulent streaks. Positive findings free from sources of error are of absolute diagnostic value as absence of the tubercle bacilli may mean; no ulceration into the bronchi or not a true specimen, and success is only obtained after treating numerous specimens and even then with *many* smears negative results are obtained.

On the other hand, for example, we will consider diphtheria. In many cases there is a very marked discrepancy between clinical and bacteriological diagnosis as the organism is associated with all grades of throat affections from a mild catarrh to a sloughing, gangrenous diphtheritic process. An absolute diagnosis depends upon finding virulent diphtheria bacilli. Stained smears are easily made and the diphtheria bacilli readily recognized.

Blood examinations give diagnostic findings to relatively few diseases but many are characterized by definite manifestations which are valuable aids to the clinician. Of all the labortory examinations I know of *none,* that requires the finesse of technic that blood examinations need. The hemoglobin tests in matching color; the preparation of a smear for a differential count; the counting of red or white cells. The slightest error or slip of technique and the gross error is large. I have always felt if I could do a blood count daily I would become really proficient. While one may error in the classification of the nucleated red cells and leucocytes he has an excuse, because the best hematologists disagree on certain forms of cells. I feel that we must always be on our guard in a blood count. A marked leucocytosis is a sign which you should never neglect. A high count may mean a vigorous reaction to the infection, a low one either to poor reaction or a mild infection. On the other hand, many of blood tests such as Widal and Wassermann, which are diagnostic, we cannot handle and depend upon a central laboratory.

Urine: In the past five years blood chemistry has so advanced in improvement that it far surpasses in value a urine analysis. Not only does it furnish us a superior basis for diagnosis but prognosis as well.

The kidney is the great regulator of the blood composition. For example, the maintainence of a practically constant level of non-protein nitrogen. In diseases of this organ, especially nephritis, the non-protein nitrogen as well as urea fall within the normal limits. As the case increases in severity there is a corresponding increase in N. P. N. and urea. Here we are checked by our lack of a laboratory and with many of us the ability to do blood chemistry and are obliged to fall back to the common tests and our handicap here is that a urinalysis tells us only what is excreted, while the blood analysis shows us what is retained. It cannot be too strongly insisted upon that the examination of single specimens can under no condition replace the routine study of the total 24 hour output.

But we do the best we can and use a fresh specimen. We take the sp. gr., the litmus reaction, test for albumin. If it is positive to albumin, can we draw any conclusions? Emphatically none, except the urine is not normal and we must resort to further investigation and other methods.

The test for sugar, if positive, have we diabetes? Not always. You ask why? Think—is the container clean? Is the cork clean? Has the patient taken any drugs—such as salicylates, camphor, chloral, coal-tar products and alkaloids. Even an abundance of urates will give a false reaction.

The fermentation test for sugar is the simplest and most reliable if one has active yeast and a warm place. Then again what other conditions cause the presence of sugar in the urine. Over-eating of carbohydrates, excessive muscular strain, etc. Then a test for bile and a microscopic examination should always be included for it leads to a cleaner cut diagnosis and gives you more assurance.

In kidney surgery your surgeon now-a-days insists on a functional test—usually uses a catheter for individual kidney function; testing urea, uric acid, creatinin, the pigments, etc.

It is hard for the general practitioner to do a nephritis test meal in the home, but it pays.

Gastric tests: Here again the small town practitioner thinks he is up against it. With a little care he can handle a case that cannot afford to go to the city hospital and specialist. It is an easy matter to pass a tube and get samples of stomach content. Do not let the array of decinormal solutions, indicators and burets daunt you. You can get books with slips of paper and a color chart to match your precentage of acidity similar to your hemogloblin scale. It will answer the purpose.

The next gastric ulcer case you have try the Einhorn string test. You have a surprise in store for yourself. Test meals are of an advantage and can be carried out in the home.

Many condemn and an equal number praise gallbladder aspiration and duodenal drainage. You must have patience and a confident and trusting patient. This patient will trust the specialist; why not you?

Stool analysis is often neglected, especially in children. The consistency, reaction and gross examination are most important. Never pass up the microscopic examination and stain with Lugol's or Gram's iodine for starch. Sharlack R for fats.

Examination for typhoid in selected cases: At this time of the year your spinal fluid tests are of value, but not so easy as your routine is similar to blood counts.

Time and limits of your patience compel me to omit the discussion of the Wassermann reaction, skin tests for protein sensitization, susceptibility tests, vaccination and serum tests and reactions.

The clinical laboratory is not so firmly established that it is an indispensable part of our clinical studies if we pretend to any kind of thoroughness. The more you use it the more satisfactory is your work. Do not be its slave. A laboratory, when properly used, is an auxiliary rather than a handicap to the development of the "clinical senses" as has been frequently charged.

The laboratory is the assistant to the physician, a right arm if you please, not his master. It can never replace trained hands, eyes and ears.

CARCINOMA OF STOMACH IN YOUNG ADULTS

C. C. BARR, M. D., and PERRY ALLERTON, M. D., B. Sc.,
Tilden, Nebraska.

In reviewing literature, we find that Raymond P. Sullivan, of New York has given a very thorough discussion of gastric carcinoma in young people in the *Surg. Gyn. & Obs. Sept.* 1924.

However, we wish to report another case, believing that much emphasis is needed for early diagnosis.

CASE REPORT

No. 1023, Tilden Hospital, Tilden, Nebr. Arthur I., age 22; was first examined by us Febr. 8, 1927.

Chief Complaint: Epigastric distress for 3 months. Loss in weight.

Present Illness: Three months ago patient had fermentative diarrhea for two days, and has had more or less distress and gas on the stomach since then. He has noticed a gradual loss in weight. One week ago he was examined by a physician with negative findings. Has had considerable pain and belching both before and after meals since the examination. Pain is dull in character in region of epigastrium and also in lumbar region, which is aggravated by eating. Stomach powders did not relieve the distress. (Has been constipated for the last week, also anorexia and insomnia). He has had no jaundice. Loss of weight has been 17 lbs. in the last three months.

Past History: Had tetanus at 8 years of age and antitoxin serum was injected subdural after trephine of skull. Has never been robust since. Varicella and measles in early childhood. Tonsillectomy at 17 years.

Family History: Father and mother living and well. Six sisters, one brother, living and well. No history of T. B., cancer or suicide, except that one grandfather was thought to have died of T. B.

Physical Examination: Weight 133 lbs. (Normal weight 150 lbs.) Blood pressure 124/80. Temp. 99°F., pulse 90, Resp. 18. Haemoglobin 70, RBC 3,400,000, WBC 8,000. Tuburcument test negative. Wassermann negative. Urine negative. Head—Eyes, ears, nose, and throat normal, except for pallor of face and dark areas under the eyes. Neck—No thyroid enlargement; no glandular adneopathy. Chest—Heart and lungs show no pathology. Abdomen—Scaphoid. Liver dullness 1 finger width below costal margin. Had slight tenderness upon deep pressure in epigastric region. No palpable mass other than the liver. Extremities are normal. Neuro-muscular examination shows no pathology. Gastric Analysis: Showed undigested meal, no occult, free acid 12, total acid, 32. Feces examination shows occult positive. X-Ray examination: Fluroscopic examination immediately after Barium meal shows proper filling of stomach, but no cap. 5-hr. picture, no cap. 24-hr. picture, no cap. Barium meal still retained in stomach in 24 hours, picture showing definite obstruction.

Working diagnosis: Pyloric obstruction, probably duodenal ulcer.

Operation performed on Febr. 16, 1927. The posterior wall of the stomach was fixed to the pancreas by an irregular mass in the middle third of the stomach. There were several nodular new growths in the stomach wall, one being at the pyloris, evidently the cause of the obstruction. There were also many large and small grayish red masses in the liver, showing evidence of metastasis. A posterior gastro-enterostomy was performed with difficulty because of the fixation of the posterior wall. A nodule was taken from the liver wall for pathological study.

Pathological Report by M. G. Wohl, M. D., Omaha Nebr.: "The tissue shows nests of large epithelial cells that have an irregular arrangement and appear to invade the parenchyma of the liver tissue. The nuclei of the cells are rich in chromatin. The cells have a tendency to arrange themselves in an alveolar-like fashion. Diagnosis: I am of the opinion that the condition is an adeno-carcinoma."

The patient had a fairly good post-operative convalescence, and was discharged from the hospital via ambulance on the 28th day of February.

Prognosis: 6 wks. to 2 mos.

Mar. 1: Patient became slightly jaundiced and complained of some pain. Sedatives were begun.

Mar. 10: Pain more severe. Relief from hypo only.

Mar. 19: Extremely emaciated, extreme jaundice.

Mar. 20: Unable to take nourishment.

Mar. 28: Patient died at 5 p. m.

COMMENT

1. We should always be on the lookout for gastric carcinoma in young people who have gastric symptoms.
2. Surgical treatment should be early.

COUNCILORS' ANNUAL MEETING, OMAHA, JAN. 9, 1928

The annual meeting of the Councilors was held at the University Club of Omaha, January 9, 1928. The meeting was called to order by Dr. Overgaard. The following members of the Council were present: Drs. Lehnhoff, Potter, Bryson, Plehn, Rork, Selby, Tornholm, Fordyce, Cook, Douglas, Overgaard. In addition to these the following guests were also present: Journal Committee consisting of Drs. Bailey, Bridges and Long; Drs. McGrath (President), Nielsen, Dunn, Sage, Adams, Hays, Fouts, Clark.

Dr. Bryson was elected chairman. Dr. Overgaard reelected secretary. The regular routine of business was then taken up.

The secretary's report was read. Motion made that this report be accepted and published in the Journal. Seconded and carried.

The report of the Committee on Scientific Work was read by the secretary. Motion made that the report be accepted and placed on file. Seconded and carried.

A committee of three, consisting of Drs. Potter, Selby and Douglas, was appointed by the chair to audit the books.

Dr. Fouts read the report of the Legal Defense Committee. Motion made that the committee be commended for their work and that the report be accepted and published in the Journal. Seconded and carried.

Dr. Selby read the report of the Insurance Committee. Motion made that the report be accepted and published in the Journal. Seconded and carried.

Dr. Dunn read the report of the Delegates to the A. M. A. Motion made that the report be accepted and published in the Journal. Seconded and carried.

Dr. Hays read the report of the Public Activities Committee and also the report of the State Fair Committee. Motion made that Dr. Hays be commended for his work and that these two committee reports be accepted and published. Seconded and carried.

The secretary read the report of the Campaign Committee. Motion made that the report be accepted and placed on file and that we pledge our support to Dr. Hohlen. Seconded and carried.

The report of the Committee of Council on Medical Education was read by the secretary. Motion made that this report be accepted and placed on file. Seconded and carried.

Report of the Committee on Public Policy and Legislation was read by the secretary. Motion made that this report be accepted and placed on file. Seconded and carried.

Report of the Auditing Committee called for.

Report of the Auditing Committee:

"Your Auditing Committee wishes to report that they have examined the financial statements of the General Fund, Defense Fund, and Journal Fund and find them as reported.

Drs. Potter, Douglas and Selby,
Auditing Committee."

Motion made that the secretary be instructed to invest $1,500 of the General Fund and that the report of the Auditing Committee be accepted and the financial statements of all three funds be published in the Journal. Seconded and carried.

Drs. McGrath and Potter gave short talks.

Motion made that we commend Dr. Potter and express our appreciation for his services for the past year. Seconded and carried.

Motion made to adjourn. Seconded and carried.

SECRETARY'S REPORT:

The Secretary feels that 1927 was in all probability the most prosperous year that the Nebraska State Medical Association has ever had. Several important things were accomplished and the Association as a whole has shown an increased activitiy and interest in matters pertaining to it.

Our total membership dropped from 1218 to 1212 during this year. While this is not a loss of any extent it was a disappointment to the Secretary as he hoped to report a gain as had been done for several years. 89 new members joined the Association and 95 old members became delinquent. Some of these, of course, were due to deaths and removals from the State. The Secretary has no way of keeping track of those who move away. As has been the custom for several years, letters were sent to all delinquents on April 1, 1927. This has been found very effective and worth while. In addition, on December 1, 1927, letters were sent to all non-members reported as eligible by their county secretaries.

During 1927 two things were accomplished by this Association which were outstanding.

1. The passage of the Basic Science Law. The interest and activity of all of our members in this campaign is to be remembered. Due to the plan of action our organization, led by Dr. K. S. J. Hohlen, worked so efficiently that we were complimented continually, and also looked at with awe by many. Since adjourning of the legislation, two difficulties in connection with this law have arisen. The Secretary of Public Welfare assumed that he had the power to regulate our reciprocity with other states until the Basic Science Board was appointed. He immediately ruled that Nebraska would reciprocate with no state not having a similar Basic Science Board. This, of course, was not the intent of the law and also Secretary Frost was usurping some power. A great deal of delay occurred before this board was appointed, part of which was due to the fact that Secretary Frost intended to have a Basic Science Board composed of high school teachers, who would give examinations on high school subjects. This took some time and one meeting to overcome. Further delay was occasioned by the time spent in selecting the members of the board. However, in September, the board was created and began to function. One of its first acts was to straighten out the reciprocity tangle. The law gives the Board the power of making such reciprocal rules as it thinks best and this trouble now seems to be over.

The board has given one examination and this has led to another difficulty—namely—the old Board of Examiners has assumed the right to supervise the Basic Science Board. The law in no way justifies this assumption. As a result of the Basic Science Board not sending the examination papers to the old Board, this board required the applicants to take a second examination in all of the subjects over which the Basic Science Board has authority. This, of course, is a usurpation of power. This condition must be corrected and quiet efforts are being made to do so. The Secretary has spent a great deal of time in this report describing these conditions which will probably be contained in another report. He has done so for the reason that he believes this to be vital to the success of our law, and also to point out that for a while we must expect attacks on this law from our enemies from every conceivable angle, and that if we are not all of us active at all times the law will be so badly twisted that it will not be effective.

Our second outstanding piece of work for the year was the work of the State Fair Committee. This committee created such a splendid show that they become so popular as to be almost swamped by the interest of the patrons of the Fair. This is a splendid work and should be kept going. The committee has plans for a bigger and better show next year.

The Secretary reports that the Public Activities Committee, which he asked to have created about six years ago and which has never functioned has, due to a new chairman, become active and will no doubt make itself felt as an influence from now on.

The one thing that the Secretary brought home from the Annual Conference of Secretaries was something that he has felt for some time to be true: Namely, the State Associations are all growing stronger, while the County Societies are loosing in strength. Some of our Societies have not had a meeting for two years. Others are getting weaker. This should be corrected and the Secretary asks all of you to help. One suggestion is to allow several weak societies to unite into one good society wherever it is possible.

A final suggestion for the good of the Association and its members is to keep up the drive on periodic health examinations of the apparently healthy. Several states have successfully carried out the plan of having a demonstration of a health examination at each one of the councilor district meetings and at some of the county society meetings. This seems to the writer to be a very good idea and he urges that this be done in our councilor district societies during the coming year.

—R. B. Adams, Secretary.

REPORT OF THE MEDICAL LEGAL DEFENSE COMMITTEE NEBRASKA STATE MEDICAL ASSOCIATION

Number of cases reported on hand at time of appointment on committee, May 1st, 1927, 19. Of these, 3 were in the Supreme Court and 9 or 10 of the remaining might be considered as active cases. Since May 1st, eight new cases have been filed with the committee. Five cases have been disposed.

Of the three cases in the Supreme Court, one was decided in favor of the doctor, another has only recently been argued before the Supreme Court and no decision has been returned. The third was remanded back for a new trial and has since been settled by the Insurance Company.

Two cases went to trial and a directed verdict was obtained for the doctors in each case. The fifth case was settled by the Insurance Company without consulting the Committee.

A present there are 22 cases pending of which about 12 or 13 may be considered active suits.

The incidental expense of the Committee—postage, telephone, supplies, telegraph, and stenographer, from May 27th to Jan. 1st, 1928, is $34.50.

The Committee is aware that not every doctor who has been sued has availed himself of The State Medical Association Defense Aid, and recognizes this to be the privilege of the individual physician.

However, the Committee feels that as a matter of policy in most cases, it is better to fight the case than to settle.

Respectfully submitted,
R. W. Fouts,
C. A. Hull.

REPORT OF INSURANCE COMMITTEE

To the Honorable President, Officers and Board of Councilors of the Nebraska State Medical Association in session at Omaha, January 9th, 1928.

The Group Policy of Mal-practice insurance placed with the United States Fidelity and Guaranty Company of Baltimore, Maryland, chosen for its complete coverage, reliability of protection, and great saving in annual premium, has progressed well into its second year of existence with a most enviable record. It has had a gradual but steady growth, the net gain in the number of certificate holders during 1927 being 182, now bringing the total certificates in force well over the 300 mark.

Your committee has been busy in ironing out the details; in reinforcing the standing of the State Association's position regarding various phases and stipulations, to-wit:

1. Reduction in the annual premium from $21.00 to $20.00 on 10/30,000 certificate, thus making it the cheapest available mal-practice insurance now sold in Nebraska.

2. Broadened the scope of the policy in the following respects:

(a) No additional charges made for the use of radium or for x-ray therapy.

(b) No limitation as to assistants; this without extra cost.

(c) Members now are given the privilege of securing protection in any limits desired at a saving as follows:

20/25000 — 22 2/3% saving
20/50000 — 27 2/3% saving
25/50000 — 33 1/6% saving
25/60000 — 34 1/6% saving

A three year contract may be procured payable in advance for $51.30, a net saving of $8.70.

A three year contract may be purchased for $54.00 on installments at a net saving of $6.00 payable $27.00 the first year, $16.20 the second year and $10.80 the third year. These latter three years saving plans are not included in any other policy offered to the Medical profession in Nebraska.

3. Establishment of an organized sales campaign through the following sources:

(a) Through U. S. F. & G. Agencies in Nebraska.

(b) Appointment of a sales manager representing the U. S. F. & G. Company whose duties shall include being present at County and District meetings and who may be included on the program of those meetings, or will otherwise represent the Company on the outside explaining the advantages offered by the Group plan of insurance.

(c) Circularizing uninsured members of the State Association both through the State Secretary and through the general office of the insurance company.

(d) A full page ad in The Nebraska State Medical Journal appearing in each issue.

(e) Maintenance of a sales force and display booth at the annual convention of the State Association at the request of the committee and at the expense of the company.

(f) An occasional article offered through our medical journal by the members of this committee.

4. Following herewith is information furnished the committee relative to suits during the current year of 1927 compiled by the Superintendent of Claims for the U. S. F. & G. Company in Nebraska:

"(1). During the first year of our group policy, October 1, 1926 to October 1, 1927, there was only one suit filed against a member of the Nebraska State Medical Association insured under the group policy. This was a suit in the amount of $3,000.00, and it was claimed that the attending physician negligently burned the patient in administering a hot application for the relief of a caked breast.

"During the portion of the second year that this policy has run, from October 1, 1927 to January 1, 1928, there have been filed two additional suits. One case involves a suit in the amount of $10,626.00, and is based on alleged negligence in the setting of Colles' fracture. The date of the alleged mal-practice falls within the period of the first year's policy, but the suit was only filed a few weeks ago. The second case involves a suit in the amount of $75,000.00, and is based upon alleged negligence in the care of a patient suffering from septic poisoning. This latter case was filed just a few days ago and the date of the alleged mal-practice falls within the period of the present policy.

"(2). There have been no settlements made under the group policy. In one case where a hospital was also joined, a settlement was made on behalf of the hospital, and the case against the doctor was dismissed without any payment on his part.

"(3). There are two suits now pending under coverage granted by the group policy.

"In connection with this report I wish to call your attention to the fact that the majority of mal-practice suits are not started within the first year following the date of the alleged mal-practice. Usually, such suits are started within a period of from one to four years following the date of the alleged negligent treatment, and this accounts for the fact that there have been so few suits filed against members of the association covered under the group policy. In addition to the suits mentioned, one claim has been reported, in which case no suit has been filed as yet. The claim is based upon alleged negligence in treating a little girl for illness, and it is claimed that the death of the little girl was due to the failure of the doctor to properly diagnose and treat her condition. We anticipate that sooner or later a suit will be filed.

"I should like at this time to comment on the fact that since the group policy went into effect three mal-practice suits have been successfully tried on behalf of assureds of this company in this state, who carried insurance with us under individual policies prior to the writing of the group policy. These suits were all against members of the Nebraska State Medical Association. The first of these cases was a suit in the amount of $26,317.46, involving alleged negligence in the reduction of a fracture of the radius and ulna. This case was contested, and it was necessary for us to try it twice in the District Court at an expense of almost $1,500.00, and it resulted in a clean cut victory for the defendant, physician and assured.

"The second case involved two doctors, both of whom were insured by this company under individual policies. It was a suit based upon alleged negligence in diagnosing a fracture of the third and fourth vertebrae, and in the amount of $1,500.00, and this also resulted in a victory for the defendants.

"The third case was a suit in the amount of $100,000 and was based upon alleged mal-practice in the treatment of a fracture of the astragulus, and this likewise resulted in a verdict for the defendant. These are the only three suits which have been tried since October 1, 1926, although there are four suits pending besides the ones heretofore mentioned, all of which have been filed since October 1, 1926.

"Commenting upon these last four suits, I wish to state that the first is a suit in the amount of $15,000.00 based upon alleged negligence in the treatment of a fracture of certain bones of the foot, resulting in the death of the patient. The second is a suit in the amount of $20,000, based upon alleged negligence in the treatment of a fracture of the metacarpal bones of the foot.

"The third is a suit in the amount of $50,000.00 based upon alleged negligence in the treatment of burns on the face and hands.

"The fourth is a suit in the amount of $7,000.00, based upon alleged negligence in the treatment of a condition diagnosed as 'barbers itch'."

Thus it may be seen that the defense machinery of the United States Fidelity and Guaranty Company has begun to function successfully.

5. Your committee has found that a whole-hearted desire to meet every need of the State Association exists among the various agencies of the U. S. F. & G. Company and as well, the Company itself has cheerfully complied with each and every request that we have seen fit to make which speaks well for the sincerity of purpose the Company professes and displays through its representatives. Only one request has been made by the company to change the text of the original policy, that being to eliminate the testimony clause, or Clause number 6 of the Master policy, which reads as follows:

"Any Assured shall give, when requested, testimony in court without demanding or receiving any charge or fee therefor from the Company, but this condition shall not be construed to exclude the payment of any necessary expense incidental to such testimony which may be incurred by such Assured."

The Committee were of the unanimous opinion that no clauses should be eliminated during the current year; this would entail sending a rider to attach to the certificate of each holder and might perhaps cast suspicion upon the policy itself at this time. Your committee is, however, of the opinion that the clause in question is superfluous, easily misconstrued by laymen and may be eliminated without injuring the quality of protection at the next anniversary date of the policy.

It is the hope of your committee that by the end of the next current year the membership of the Nebraska State Medical Association may be made to realize the wisdom of this great advance in protection, as well as to throw skepticism to the wind and join in this revolutionary movement which can only result in our mutual benefit through minimizing the number of mal-practice suits by an impenetrable defense builded upon unity.

Respectfully submitted,
C. A. Selby,
Morris Nielsen,
R. D. Schrock.

REPORT OF DELEGATES

To the Councilors Nebraska State Medical Association:

Your Delegates to the American Medical Association beg to submit the following report:

Time will not permit mentioning much of the matter considered at the annual session. Your delegates in their report must of necessity choose such matters as seem most significant to them.

1. The restrictions on the prescription of alcohol under the Volstead Act came up for its annual discussion in Executive Session. "The Supreme Court has decided by a majority of 5 to 4 in the case of Lambert versus Yellowley that the Congress has power to limit the amount of whisky which a physician may prescribe for a patient to one pint in ten days, irrespective of the patient's condition or the physician's opinion as to the patient's needs, etc". The following resolution was adopted:

"The condition of hysteria into which the country was thrown by the struggle over the prohibition amendment has apparently subsided and the time has come when the American Medical Association should state plainly its attitude with regard to the use of alcohol and alcoholic liquors as therapeutic agents, as well as the position in which the physicians of the country are placed by the present unfortunate state of affairs. Such a statement should have no political bearing whatsoever and is intended to deal with the matter only from the practical and scientific medical standpoint. Alcohol is thought to be helpful in the treatment of disease and is being used in the practice of a very large number of doctors, many of whom believe it to be an essential and life-saving remedy. These doctors are confronted by a most deplorable situation brought about by the framers of the Volstead Act who unintentionally, we believe, limited the amount of alcohol for one patient to a pint in ten days. Such physicians believe that in certain cases of serious illness a pint in ten days would be useless, and that law-abiding physicians have no other alternative than to violate the law in order to save life. This is wrong and should be corrected. We believe it will be promptly corrected if the situation is properly presented to the authorities in charge.

"Your committee would, therefore, recommend that with the cooperation of the special committee headed by Dr. Mayer of Pennsylvania and the excellent executive of the Bureau of Legal Medicine and Legislation, Dr. Woodward, the Board of Trustees be directed to prepare a bill to be presented to Congress correcting the unfortunate provision of the Volstead Act limiting the amount of alcohol used, and providing such regulations as will permit doctors to prescribe whatever amounts of alcoholic liquors may be needed for their respective patients, and subject to such reasonable restrictions as may be thought wise and best after a conference with the head of the Prohibition Department."

The House of Delegates went on record twice in regard to its disapproval of the determination of the value of a remedial agent by popular vote or referendum fiat, to-wit: Your reference committee recommends that the American Medical Association condemn as unwise and futile any attempt to evaluate a therapeutic agent by legislative fiat, referendum, popular vote, or any similar method. Such evaluation can be made only by investigation and decision of experts having knowledge of that particular subject.

(Report of Committee on Legislation and Public Relations)

"Your committee, however, feels that the Board of Trustees should recommend to the House of Delegates that, in the future, no resolution pertaining to the therapeutic value of anything should originate on the floor of the House of Delegates and that no committee report empowering any such resolution should hereafter be presented until it has been considered by the Council on Scientific Assembly, which may enlist the Council on Pharmacy and Chemistry in its deliberations.

"We, therefore, offer the following resolution:

"That hereafter the House of Delegates shall not pass any resolution pertaining to the therapeutic value of anything and that no committee report empowering any such resolution shall hereafter be presented until it has been considered by the Council on Scientific Assembly and the Council on Pharmacy and Chemistry."

(Report of Reference Committee on Reports of Board of Trustees and Secretary)

2. The establishment of a specific course in ethics in medical schools was recommended.

3. The Judicial Council presented a formula by which contract practice may be determined to be unethical.

"1. When the compensation received is inadequate based on the usual fees paid for the same kind of service and class of people in the same community.

2. When the compensation is so low as to make it impossible for competent service to be rendered.

"3. When there is underbidding by physicians in order to secure the contract.

"4. When a reasonable degree of free choice of physicians is denied those cared for in a community where other competent physicians are readily available.

"5. When there is solicitation of patients directly or indirectly".

4. The Judicial Council was asked to define the word "clinic". The definition was as follows:

"Originally the word in its verbal form meant 'to lie down', or 'to recline'. And in its nominal form it signified that on which one lies or reclines; namely, a bed. Owing to the fact that most persons who are really ill are confined to bed, the word acquired the somewhat specific meaning of a bed of sickness. With the recognition of the importance of practical instruction at the bedside in the teaching of medicine, the term "clinique" was introduced in France to designate an institution or school where students were taught by the examination and treatment of patients in their presence. Clinique was Anglicized into clinic, but its application to a teaching institution has always been retained up to very recent times. In a changing world, words frequently acquire meanings not contained in their original significance. The term "clinic" was adopted comparatively recently by a few physicians and by a greater number of groups of physicians to designate their offices or workshops, perhaps for the want of a better term, perhaps for the purpose of conveying to the public mind the idea of greater importance or of institutional dignity. Whether or not the use of the term in this connection has come to stay cannot be predicted; but that its use in this way does not find justification in the original significance of the word is evident."

5. The Council on Medical Education was criticized by the reference committee for presenting largely material that was lauditory without voicing any of the wide spread criticisms of our present medical education. To this extent the report of the Council was not constructive. The Reference Committee on Medical Education expressed as their opinion that present day teaching is too largely that of specialization and not that best fitted to the training of practitioners; that present medical course is probably too comprehensive.

6. The dangers of foundations making health programs for communities which are unable to support such programs after the foundations have withdrawn their money were voiced; that these programs are frankly socialistic and tend to state medicine is quite evident.

(Report of Reference Committee on Medical Education)

7. The problem of what should constitute the proper training of nurses for various types of service was discussed. Extensive investigations are in progress. No tangible recommendations are yet to be made. It was felt the problem needed further study before any action be taken.

8. It was emphasized that probably one of the best methods the profession has to combat irregular practice and quackery is by the support and dissemination of Hygeia.

Respectfully submitted,
Roy W. Fouts,
A. D. Dunn.

PUBLIC ACTIVITIES REPORT

January 9, 1928

At a meeting of the Public Activities Committee on November 22, held at the University Club in Omaha, Dr. C. A. Roeder, who has been our efficient Chairman for several years, on account of the pressure of business, resigned his position and Dr. E. R. Hays of Falls City was elected by the Committee to succeed him. On November 28, Dr. Hays received his official appointment as Chairman of the Public Activities Committee from President H. E. Potter and immediately accepted. On December 3 the following letter was addressed to all the Councilors in the State Society:

My dear Doctor: At a meeting of the Public Activities Committee held in Omaha on November 22, Dr. C. A. Roeder resigned as Chairman and the writer was chosen to succeed him. As you well know, it is impossible for any Committee to accomplish a great deal without the cooperation and support of the other members of the Society, and it is just as much the duty of the individual to contribute his best effort for the benefit of the whole Society as it is for the Committee itself.

In your position as Councilor you are the representative of your district and through you the activity of your district will be reflected. Our relation with the public has not been improved to the point of satisfaction, but now, after months of study, we believe we can launch a program with a fair degree of certainty that it will prove successful.

Our program includes listing all lay clubs and organizations that are representative of the Community and are, or should be, interested in Public Welfare, and from our Speakers Bureau, which we are now forming, send physicians who will address these groups on Medical subjects of Public interest. There will be no attack on cults or isms, for these only thrive on opposition, and also, we must keep away from the criticism of advertising or promotion. We have enough in our own catalogue to enlighten the public on health matters, improve our relation with the public and keep our profession in the respected plane it deserves.

Through your Councilors Auxiliary Committee I wish you would obtain and send to me the names, addresses, and principal officers of all clubs interested in Public Welfare within your district. Rotary Clubs, Kiwanis Clubs, Women's Clubs, Parent Teacher Associations, Community Clubs, Educational Clubs, should all be included. Also I wish you would list the physicians within your district who should be included in our Speakers Bureau. These men should be good talkers, able to address a crowd well, interested in matters of Public Welfare and willing to give part of their time to filling speaking engagements.

As our messages to the public will be given through these men they should be selected with great care, for our standing in the Community will rise or fall exactly as the public reacts to their speeches. Should it be impossible for any reason for you to comply with these requests I wish you would elect an alternate whom I may call upon for active support. Your early reply will be appreciated.

E. R. Hays, Chairman.

I have received a number of favorable replies from the Councilors but as yet have not received sufficient information to organize a Speakers Bureau nor have I received an authentic list of the social and service clubs existing in the various communities. No doubt this information will soon be forthcoming and then we shall proceed to arrange for speaking dates with these various clubs.

Arrangements are now being made for a series of 8 or 9 health talks to be given over the radio one week apart. These health talks will be educational in character and deal with the general health of the public. We intend giving 2 preliminary talks, explanatory in character, and then offering several cash prizes for the best essays written on the talks that are to follow.

Realizing the inadequate preparation that the school teachers of our state receive on health matters and in as much as health programs are being introduced into a great many of our public schools, we are now endeavoring to introduce into the Teachers Colleges of our State a course in health training that will enable the teachers to intelligently make physical examinations of the school children as now required by law, and also to successfully carry on health programs within their districts. Already I have arranged with Mr. Pate, President of Peru Normal, for a series of 9 lectures to be given in the Teachers College the coming semester. We hope to carry this program to the other Normal Schools of our state and also to the Teachers College at Lincoln.

During our state meeting in May we plan on asking the city of Hastings to set apart that week as a health week. Our contributions will be addresses in several of the churches on the preceding Sunday, an address before the Rotary and Kiwanis Clubs, a talk to the students of the High School and also visits and short talks to the Grade Schools. Also, during one evening of the session, we plan to have an address on "How to Keep Well" delivered to the Parent-Teacher Association.

It is necessary in carrying out any health program, where a small amount of money is available, that we have the cooperation of the influential men in every part of the state. At this body is most representative of influential men the ideal method, in my opinion, to reach the public is through the Councilors Auxiliary Committee, which I trust has been organized in every Councilor district. Should we fail to receive such cooperation it does not necessarily mean that a great deal more money than is now appropriated must be spent to obtain the same results.

I believe it is the intention of the Medical Society to have this Committee function to the point where our professional relations with the public will be raised to the respected plan it deserves. It is our earnest endeavor to bring these things to pass and I am sure with your full cooperation we will be able to build up our organization to this high point of efficiency. In the words of Kipling, "It ain't the individual nor the army as a whole, but the everlastin' team work of every bloomin' soul."

Public Activities Committee,
By E. R. Hays, Chairman.

STATE FAIR COMMITTEE REPORT

January 9, 1928

During the 1927 session of the Nebraska State Medical Association a special committee was appointed to put on an exhibit at the Nebraska State Fair in September. Dr. H. J. Lehnhoff of Lincoln, Dr. F. B. Young of Gering, and Dr. E. R. Hays of Falls City, as Chairman, were the chosen members of this State Fair Committee.

This being the first year that an activitiy of this kind had been attempted we necessarily met with a great many obstacles which obstructed our path. While our Committee was well sold on the need of a Health Exhibit it was necessary to convince the State Board of Agriculture, which is a lay organization, that we were not trying to put something over on the public or were not trying to advance ourselves at the expense of this public gathering .

However, with the influence of Hon. A. J. Weaver, Vice President of the State Board of Agriculture, who was heart and soul in favor of our plan, and the efficient manner in which our program was presented on July 11 by Dr. H. J. Lehnhoff, Dr. R. B. Adams and Dr. C. P. Fordyce, the agricultural board agreed to grant us space for an exhibit at the Fair.

On account of the lateness of our application and the newness and uncertainty of our project, we were not until August 9 assigned a space in the old Mercantile Building. None of you who is unfamiliar with the Buildings at the State Fair grounds can appreciate the awfulness of this assignment for a Health Exhibit. However, we appreciated the opportunity to make our vision a reality so we set about to do the most with it.

Invitations were extended to the Nebraska University Medical College, Creighton University Medical College, Nebraska Tuberculosis Association and the State Department of Health to prepare various exhibits for our display and Dr. F. B. Young was asked to exhibit his collection of Paleopathological specimens. We wish to mention here that Dr. H. von W. Schulte, Dean, Dr. B. C. Russum, Pathologist, and Dr. Victor Levine, Biochemist, all of Creighton University made a special trip to Falls City to confer with the Chairman and offer their services in any way they could help to make this project a success. This offer was taken advantage of and we wish to thank these gentlemen in this report for the many ways they so greatly contributed to the success of our State Fair Exhibit.

Our Exhibit consisted in Pathological specimens and other valuable material from Nebraska University Medical College prepared by Dr. John T. Myers, Pathologist, and authorized by Dr. J. J. Keegan, Dean, who cooperated fully with our efforts, and many pathological specimens from Creighton University Medical College prepared and arranged by Dr. Russum, pathologist. We had hundreds of charts on Food Values, Vitamines, Health Axioms, and Nostroms; dozens of photographs of Deficiency Diseases, ten plates of candied fruits and vegetables, all prepared, arranged and set up under the direction of Dr. Victor Levine, biochemist. There were cages of white rats and guinea pigs from Creighton. H. K. Mulford Company contributed a biological display of bacterins, antitoxins and serums, together with literature on the value of these products. The interesting Paleopathological specimens of Dr. F. B. Young were shown under his personal supervision.

We had arranged for a pamphlet to be distributed to our visitors with a heading of "Keep Well" and a signature of Nebraska State Medical Association. This pamphlet attacked no cult nor lauded any specialty but was filled with sound health messages, good advice and told in simple language. This contribution was from the pen of Dr. H. von W. Schulte, who we have said before contributed so much to the success of our program.

It was our desire in arranging for this display to correlate all agencies dealing in Health under one head "The Nebraska State Medical Association Exhibit". Also, we hoped to operate the Emergency Hospital on the Fair grounds as a standardized Hospital under our Society name, and man it from the Lancaster County Medical Society, but we found it was not expedient to include these things in our program.

In the arrangement and decoration of our booth particularly, and in many other ways, we wish to acknowledge the valuable contributions of service and skill of our Secretary Dr. Roy Adams. Many hours of his time and energy were spent in aiding us in our project.

On Monday, September 5, the Fair was on and the crowds came. The problem immediately confronted us of how to attract the people and hold their interest until our messages could be delivered. Through the attractiveness of our booth a few sauntered in and began asking questions. In answering these and explaining the various pathological specimens a crowd would gather and these explanations evolved into a short lecture on Heart Disease, Brain Injuries, Typhoid Fever, Hypertension and Cerebral Hemorrhage, Tuberculosis, Gallstones, Rickets, Goiter and Cancer. In these talks no therapeutic advice was given. The specimens were explained in simple language, preventive measures were stressed and we emphatically emphasized the importance of periodic Health Examinations and the wisdom in consulting their family physician early.

Following the short lecture the "Keep Well" pamphlet was distributed to the audience by nurses from The Nurses' Registry of Lincoln, who graciously donated their services, and the crowd would pass on. Soon another group would gather and the lecture would begin. Thus we proceeded throughout the day, and that Monday night when we checked our visitors from the number of pamphlets distributed, we found that 5,000 people had visited our booth and heard the lectures on that one day.

This program was continued with slight variations throughout the week and we have estimated that over 15,000 people visited us during this time. Whether our exhibit was well received can best be told by relating a few of the many individual reactions and impressions that were stimulated by our lecturers.

Following the talk on Gallstones, when it was explained that none could be dissolved nor be made to pass by any of the patent medicines that were now flooding the market, that what actually passed was bile stained soap balls manufactured in the body by the taking of fat and alkali, a man who had heard the lecture came up on the platform and turning to the crowd said, "What the Doctor has been telling you is true. I took six bottles of a gallstone cure and literally passed hundreds of what I thought were gallstones. However, my distress continued, and it was necessary that I have an operation for relief and at this operation it was found that my gallbladder was filled with stones. I tell you these gallstone cures are bunk and I know it."

At another time, a large thick necked man was passing through the booth while the lecture on Cancer of the Breast was going on. He remarked quite loudly, "Come on, let's go. I am not interested in any of these women diseases". The lecturer, noting his type said, "Perhaps you would be interested in hearing about High Blood Pressure and that specimen over there of a brain section showing a hemorrhage and stroke of apoplexy caused by hypertension". The man stopped and listened and after the lecture came up and said, "Doctor, you hit me square between the eyes, and I want to thank you for it. I have high blood pressure and kidney trouble and I have been running around the country trying this cure and that cure as advertised in the daily papers, but I am going home and turn my case over to my family doctor".

We often would see people in our audiences who had been there before and when asked why they returned they would invariably reply, "I was so much impressed with your exhibit that I have brought back my friends to see it and hear the lectures".

I think the reaction of the Public as a whole was told by the man who lingered in the booth after the lecture was over and when approached by Dr. Lehnhoff for his impression very seriously said, "Why haven't you doctors been doing this before".

Your committee feels that the State Fair Exhibit was a success and should be perpetuated. The Board of Managers of the State Fair was so favorably impressed with our program that it has offered us an entire building for 1928. We plan at this time to have a more elaborate exhibit, a series of prepared lectures and to conduct a periodic health examination on one applicant from each county in the state.

The public is interested in its health. Individuals are anxious and eager to hear our messages and see our displays and the Nebraska State Fair with its gathering of one-third million of our people affords the greatest opportunity to enlighten the masses on the problems of health.

When we criticise the public for the lack of understanding of our profession and damn the cults for the inroads they are making on our business, let us answer the man of the crowd who asked, "Why haven't you doctors been doing these things before?"

E. R. Hays, Chairman.

GENERAL FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1927 to December 31, 1927.

Cash Receipts		
Membership dues	$9,488.00	
Interest	43.23	
Total Cash Receipts		$9,531.23
Cash Transferred to Other Funds		
Journal Fund	$1,780.50	
Defense Fund	2,374.00	
Total Cash Transferred		4,154.50
Balance Available for General Fund		5,376.73
Cash on Hand Jan. 1, 1927		2,673.35
		$8,050.08

Cash Disbursements			
Salaries—R. B. Adams		$ 600.00	
Office and Administrative Expense			
Rent	$ 180.00		
Telephone	93.90		
Printing	130.05		
Stamps	135.00		
Secretary of State Fee	1.00		
F. A. Long (1926 Expense)	44.65		
Insurance Premium	5.00		
Peters Bank (Check Book)	2.25		
Flowers	3.00		
Ford Delivery Co.	1.24		
A. M. A.	37.75		
Ruth Scott	1.75	635.59	
Miscellaneous Expense			
Councilor Expense	335.57		
Annual Meeting	17.50		
Huse Publishing Co.—Programs	43.75		
State Fair Committee	526.72		
Program Committee	34.90		
Public Activities Committee	191.65		
Speakers for Meeting	214.64		
Service Charge—Peters	3.19		
K. S. J. Hohlen	868.66		
Conservative Savings & Loan Assn.	2,500.00	4,736.58	
Convention Expense			
R. W. Fouts	94.06		
A. D. Dunn	94.08		
Alice Cary Gilchrist	145.00		
Dr. Heagey	56.88	390.02	
Total Disbursements for Year 1927			6,362.19
Balance—Cash on Hand Dec. 31, 1927			$1,687.89

GENERAL FUND

STATEMENT OF INVESTMENTS

January 1, 1927 to December 31, 1927

Investments on Hand Jan. 1, 1927		
Cash Held by Peters Trust Co.	$ 575.10	
Securities Held by Peters Trust Co.	3,500.00	$4,075.10
Balance in Account—Omaha Loan & Bldg. Association		1,265.42
Total Jan. 1, 1927		$5,340.52
Additions to Investments During Year 1927		
By: Interest Credits—Peters Trust Co.	$ 150.00	
Transfer from Income Account—Peters	500.00	
Dividend Credits—Omaha Loan & Bldg.	64.04	
Investment—Conservative Savings & Loan Association	2,500.00	
Interest Credits — Conservative Savings & Loan Association	119.80	3,333.84
		$8,674.36
Withdrawals During Year 1927		
Trustee Fee Year Ending 2/8/27	8.75	
Transfer to Principal Acct.—Peters	500.00	508.75
Investment on Hand Jan. 1, 1928		$8,165.61
Represented by:		
Cash Held by Peters Trust Co.	216.35	
Securities Held by Peters Trust Co.	4,000.00	
	4,216.35	
Balance in Account—Omaha Bldg. & Loan Association	1,329.46	
Balance in Account — Conservative Savings & Loan Association	2,619.80	8,165.61

JOURNAL FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1927 to December 31, 1927
As Compared to
January 1, 1926 to December 31, 1926

		1926		1927
Direct Journal Receipts:				
Advertising Space		$4,642.51		$5,236.06
Cuts		119.94		81.05
Copies Sold		20.30		16.60
Subscription to Journal		26.75		52.00
Dividends Coop. Adv.		224.92		241.87
Total Direct Receipts		5,034.42		5,627.58
Share Dues Rec'd—Gen. Fund		2,091.25		1,780.50
Total Receipts—All Sources		$7,125.67		$7,408.08
Direct Journal Disbursements:				
Salaries:				
F. A. Long	$1,200.00		$1,200.00	
R. B. Adams	1,200.00	$2,400.00	1,200.00	$2,400.00
Publication Expense:				
			13.19*	
Huse Pub. Co.	4,197.68		4,067.88	
Baker Bros.	184.79		278.74	
Capital Eng.	172.62		16.87	
Uni. Press Clip. Bur.	42.00	4,597.09	42.00	4,418.68
Total Direct Disbursements		$6,997.09		$6,818.68
Excess Cash Over Disbursements		$ 128.58		$ 589.40
Cash on Hand Jan. 1		2,141.19		769.77
		$2,269.77		$1,359.17
Investment Made — Union Loan & Savings Assn.		1,500.00		
Total Cash on Hand Dec. 31		$ 769.77		$1,359.17

*Bank Charge	$ 2.04
Check Book	10.50
Refund on Copies	.65
Total	$13.19

JOURNAL FUND

STATEMENT OF INVESTMENTS

January 1, 1927 to December 31, 1927

Investment on Hand Jan. 1, 1927			
Balance in Account — Omaha Loan & Building Association		$2,432.75	
Balance in Account—Standard Savings & Loan Association		1,378.30	
Balance in Account—Union Loan & Savings Association		1,583.11	
Total Jan. 1, 1927			$5,394.16
Addition to Investment During Year 1927			
By:			
Dividend Credits — Union Loan & Savings Association:			
June 30, 1927	$47.49		
Dec. 31, 1927	48.92	$ 96.41	
Dividend Credits—Omaha Loan & Bldg. Association:			
July 1, 1927	60.81		
Jan. 1, 1928	62.32	123.13	

Dividend Credits — Standard Savings & Loan Association:			
July 1, 1927	41.35		
Jan. 1, 1928	42.55	83.90	303.44
Investment on Hand Jan. 1, 1928			$5,697.60
Represented by:			
Balance—Omaha Loan & Building Assn.		$2,555.88	
Balance—Standard Savings & Loan Assn.		1,462.20	
Balance — Union Loan & Savings Assn.		1,679.52	$5,697.60

DEFENSE FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1927 to December 31, 1927

Cash Receipts		
Share Dues Received from General Fund	$2,374.00	
Interest Received	15.02	
Total Cash Receipts		$2,389.02
Cash Disbursements		
A. S. von Mansfelde, Salary	$ 600.00	
Attorney Fees:		
Peterson & Devoe	804.76	
Switzer	50.00	
Bryant	200.00	
C. C. Johnson, expense	161.75	
Total Cash Disbursements		$1,816.51
Excess Cash Over Disbursements		$ 572.51
Cash on Hand Jan. 1, 1927		133.70
Balance Dec. 31, 1927		$ 706.21

DEFENSE FUND

STATEMENT OF INVESTMENTS

January 1, 1927 to December 31, 1927

Investments on Hand Jan. 1, 1927		
Cash Held by Peters Trust Co.	$ 122.05	
Securities Held by Peters Trust Co.	1,500.00	
Total Jan. 1, 1927		$1,622.05
Interest Credited During Year		82.50
		$1,704.55
Cash Transferred		
Trustees Fee for Year Ending 2/8/27		6.25
Investment on Hand Jan. 1, 1928		$1,698.30
Represented by:		
Cash Held by Peters Trust Co.	$ 198.30	
Securities Held by Peters Trust Co.	1,500.00	$1,698.30

HYPOGLYCEMIA IN SCLERODERMA

Eight cases of generalized scleroderma have been studied by Warfield T. Longcope, Baltimore (*Journal A. M. A.*, Jan. 7, 1928), with reference to the function of glands of internal secretion. In one case of generalized scleroderma with deep pigmentation, attacks of mental confusion and delirium occurred repeatedly after short periods of fasting. These attacks were associated with hypoglycemia. The resemblance between many of the symptoms in this case and those occurring in some instances of Addison's disease was noteworthy. In a study of five other cases of generalized scleroderma, the blood sugar, as well as the other chemical constituents of the blood, did not deviate materially from the normal. In three cases the basal metabolic rate tended to fall below normal and the administration of thyroid extract in these cases was attended by symptomatic improvement. In one fatal instance of acute and extensive scleroderma in a young man, autopsy disclosed atrophy of one suprarenal gland and interstitial orchitis. Longcope suggests the possibility that disturbances in the function of the glands of internal secretion, which occasionally accompany scleroderma, may in some instances occur as a result of involvement of these organs by the generalized process, and thus do not have a direct bearing on the etiology of scleroderma.

"HARD BOILED" BACTERIA

Disease causing bacteria have many devices to perpetuate their kind in an adverse world. Bacteriologists of the Hooper Foundation for Medical Research, University of California, have shown that tetanus spores may resist the temperature of boiling water for ninety minutes, botulinus in vegetable juices for five and one-half hours and those of a closely related but harmless species for eight and one-half hours. Other workers have proved that typhoid and other organisms may remain alive for years at refrigerator or lower temperatures.

This happy provision of nature—happy, that is for the bacteria—constitutes a factor of great danger for man and animals which it is the function of scientific research to obviate, says Dr. George E. Coleman, of the Hooper Foundation. "The brilliant success," he states, "that has been attained already, in which the experimental use of mice and guinea pigs has played a large part, is constantly being proclaimed by statistical evidence of fewer food poisonings and typhoid fever outbreaks as well as by increased protection from many of our other microscopic foes".—Science News-Letter.

FUMIGATION AND ANTISEPTICS

To prevent the spread of contagion, personal cleanliness, mechanical cleansing of contaminated areas and the boiling or burning of articles that are grossly contaminated is much simpler and safer than the use of antiseptics and fumigation. These often do little more than to give a false sense of security and leave a disagreeable odor. (*Jour. A. M. A.*, August 13, 1927, p. 543).

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ROSTER OF OFFICERS

	Term Expires
Dr. B. R. McGrath, Grand Island, President	1928
Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

COUNCILORS

Dr. R. D. Bryson, Calloway, Chairman	1929
Dr. L. W. Rork, Hastings	1929
Dr. C. A. Selby, North Platte	1929
Dr. F. W. Plehn, Scottsbluff	1929
Dr. S. A. Preston, Fremont	1928
Dr. W. J. Douglas, Atkinson	1928
Dr. Frank Tornholm, Wahoo	1928
Dr. H. E. Potter, Fairbury	1928
Dr. A. P. Overgaard, Omaha, Secretary	1930
Dr. H. J. Lehnhoff, Lincoln	1930
Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

Dr. A. S. v. Mansfelde, Ashland, Honorary Chairman	
Dr. B. B. Davis, Omaha, Chairman	1928
Dr. Roy W. Fouts, Omaha	1929
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

JOHN HUNTER—FOREMOST ENGLISH SURGEON OF HIS TIME

John Hunter, brother of William Hunter, youngest of ten children, was born February 13, 1727, in Lanarkshire. When ten years of age his father died and it is supposed his mother indulged him so much that at twenty he could no more than read and write. At this time he became interested in his famous brother's laboratory in London, was made an assistant in the dissecting room, made rapid progress so that by the second year he was able to do the directing of the students. His work gave great promise and after two years he became a surgeon's pupil at St. Bartholomew's, London, and seven years later, in 1756, he was appointed house surgeon at St. George's hospital. After several years, his health failing, he was advised to seek a warmer climate and in pursuance of this he was with the army on the Portugese frontier from 1761 to 1763.

Returning to London in 1763 he began the career of a London practicing surgeon, was elected Fellow of the Royal Society, became surgeon to St. George's hospital. He did some supplementary teaching and Sir Astley Cooper and Edward Jenner were two of his pupils. In 1776 he was appointed surgeon extraordinary to the king. In 1783 he was elected to the Royal Society of Medicine and also to the Royal Society of Surgery of Paris. He devised the classical operation for the cure of aneurysm—that of tying off the artery proximal to the tumor, and did the first operation successfully in 1785.

He did a vast amount of anatomical research. He observed that under the stimulus of necessity the smaller arterial channels dilate to perform the duties of the larger as in the operation for aneurysm. He solved the problem of the descent of the testes, traced the ramifications of the olfactory nerves, proved the importance of the lymphatics to the animal economy.

In 1783 he established a museum and at his death had over 10,000 specimens illustrative of human and comparative anatomy, physiology, pathology and natural history. After his death this collection was purchased by the government for fifteen thousand pounds and given to the Royal College of Surgeons by whom it was always highly prized.

He was a voluminous writer. His manuscripts were burned after his death.

After the death of Percival Pott in 1788 he sucured the undisputed title of the first surgeon of England.

He died on October 16, 1793.

THE SECTIONAL COLLEGE OF SURGEONS' MEETING AT OMAHA

Not a large, but a respectable, number of medical men and women attended the meeting of the Nebraska Section, American College of Surgeons at Omaha, February 7 and 8, at the Fontanelle hotel.

The central idea of the program was unique in that it consisted entirely of verbal presentation of subjects—no papers being read—case reports, presentation of cases, lantern slides, and discussions. Much credit is due the program committee for presenting a scheme that kept the attention of all and with sufficiently frequent change of subjects, to prevent languor. The time limit for each speaker was so short that no one had a chance to talk against time. Keen interest was shown by all in attendance from beginning to end of the program.

We can only touch on a few of the presentations: Dr. J. E. Summers presented the great advantage of the cautery knife in suspiciously malignant and frankly malignant types of neoplasms. Dr. Edwin G. Davis suggested the retained ureteral catheter left in place for several days in pyuria without stricture in which drainage is otherwise inadequate. Dr. W. L. Shearer presented a boy 17 years of age who had had a 1 3-4 inch cleft in the palate and who had been unable to vocalize, on whom, after much thought, he reconstructed the palate with almost perfect result, contrary to accepted belief in cases of adolescents. Boy speaks plainly now. Dr. J. M. Banister presented a patient on whom he reconstructed a saddle nose by use of a rib graft; no absorption of graft has occurred in ten years, contrary to generally accepted belief that grafts do absorb. Dr. J. J. Hompes, Lincoln, suggested exploratory mastoidectomy for abscure cases as having as much justification as an abdominal exploration. Dr. H. W. Orr again advocated his method of early adequate drainage for osteomyelitis of the long bones, with sterile vaseline gauze covered with sterile dry gauze dressing and infrequent—3 to 4 weeks—change of dressings as the most satisfactory for ultimate results.

Dr. Howard L. Beye, professor of surgery, University of Iowa College of Medicine, guest of honor, spoke very interestingly on the new lung surgery of chronic pulmonary infections. He thinks sinus disease a cause of bronchiectasis and that brain abscess is often secondary to bronchiectasis.

One session was devoted to the hospital problems under the direction of Dr. M. T. MacEachron of the headquarters of the American College of Surgeons.

Dr. B. R. McGrath, president of the Nebraska State Medical Association gave a charming address on "Medical Evolution" after the banquet.

A very unique and surpassingly instructive film on Infections of the Hand was shown to the delight of all present. The reaction of those present may be summed up in what one member, Doctor Roeder, said: "When the medical colleges can get that kind of film for their teaching, they can take a year off the curriculum!"

HASTINGS AND THE ANNUAL MEETING

We have information that assures us that the city of Hastings will be well able to care for all who wish to attend the annual meeting of the Nebraska State Medical Association, May 15-17. This information comes from such authoritative sources as the Hastings Chamber of Commerce, Mr. Ralph E. Bryant, the proprietor of the Hotel Clarke and Hotel Alexander, and from Dr. J. V. Beghtol, president of the Adams County Medical Society. The Journal is glad to broadcast this information in order to counter a belief said to have gained some headway, that hotel accommodations at Hastings were inadequate. Let no one count on remaining away from the meeting on such a supposition.

Hastings is widely known as one of Nebraska's most popular convention cities. Located in the south central part of the state, it can be easily reached from the east, west, north and south. For state conventions it is particularly popular.

Hastings is accessible by graveled highways from every direction. It is on the D. L. D., Harding, Columbia, Old Oregon Trail, Grainland and Potash Highways, and connects conveniently with the Lincoln and Meridian highways and many others. By rail it can be easily reached from any part of the state. Hastings is on the main line of the Burlington to the west, and the Union Pacific from Kansas City to the northwest. It is also on the Northwestern, Missouri Pacific, and St. Joe and Grand Island lines, forming easy connections from all parts of the state.

The convention accommodations in Hastings are ideal. The new $200,000 Municipal Auditorium is available for conventions, seating from 1,000 to 2,500 persons, the Armory, many of the twenty-six churches, and a number of privately owned halls, and hotel ballrooms, are available for smaller conventions, and committee meetings. A number of dining rooms are available for banquets, and several churches have dining rooms that can be secured if desired. Especially large banquets can be held at the Auditorium.

Hastings has two large modern hotels, the Clarke and the Alexander, widely known for their service and accommodations, as well as a number of smaller hotels. The two large hotels have a combined capacity of 270 rooms.

Hastings has one of the finest municipal tourist camps in the west, as well as an up-to-date tourist cottage camp.

A MEDICAL TYRO OF THE EIGHTIES

Although, as indicated in a previous article, I had been graduated with my class, I had a deeply rooted feeling that I did not have sufficient knowledge to practice medicine on my own responsibility and this feeling of fundamental inferiority probably saved me from making an utter failure for it spurred me on to continuous endeavors to make up deficiencies. The opportunity of a limited partnership offered by my first preceptor was, therefore, gladly accepted.

Five days after I arrived in the village my preceptor left me in charge of the office and his patients while he went away on business for a week. The time had really come to "root hog or die". All my life I have been somewhat diffident; from adolescence on I was extremely bashful. Maturity of years and some professional acquirements had not overcome the feeling of inferiority, although they spurred me to a bit of assumed courage. Perhaps no one ever felt his lack of training more than I did and I determined to overcome my handicaps by faithful study if I could do so. I decided to make it a "religious" duty to read and re-read in my books every case I had to treat, so as to familiarize myself with all the symptoms and varying phases and complications of disease. This practice was carried out for many years, no matter how frequently I had cases of the same general type to care for. This was a wonderful help to me in later years and I recommend it to others.

Fortunately the wife of my preceptor was a brilliant woman who had been my teacher in high school and she gave me some good advice in diplomacy which helped me a lot in handling the important cases that came to me. The first confinement call came promptly. She was the wife of the section foreman and as soon as I entered the bedchamber the husband said, "Dock, have you had any experience in handling such a case?" To which I unhesitatingly and shamelessly replied, "Oh, yes". I had schooled myself for just such a question. Luckily, the child was born about ten minutes after my arrival which may have saved me from disrepute. A lady, whose husband died while in Burlington on a spree, went into convulsions and I was called to minister to her. Something told me to give her bromide and chloral and the preceptor's wife helped me make a diagnosis of hysterical convulsions. I assumed a very sober and austere attitude, ordered the members of the family around and gave her every attention within my mental horizon. Within a few days she began to recover, which placed my star in the ascendent, for the people thought she had been alarmingly ill. People spoke favorably of the young doctor, I was told by friends. A very special friend of my preceptor developed a severe form of cystitis and I was called to take care of him. Together with neutralizing agents I prescribed an opiate to relieve his distress, following which he became delirious which alarmed the family. The preceptor returned at a fortunate moment and explained matters to the satisfaction of the family and friends. Such was my beginning in the practice of medicine.

I soon learned that my preceptor had acquired some very bad habits in the few years I had been away. I discovered that he was addicted to drink and I suspected he was using morphine, in which surmise, events proved, I was correct. Feeling that with this handicap the business could not flourish I determined to go elsewhere. I had spent three and a half very eventful, and professionally, very profitable, months. The later history of my preceptor was rather startling. In a dispute over a bill he shot and mortally wounded a butcher, was sentenced to Ft. Madison penitentiary for ten years, was pardoned after two years, located at Ft. Madison as a surgeon and after a number of years died a mental, moral, physical and financial wreck.

I came to eastern north Nebraska and located in a county seat town, June 27, 1882. The town was said to have a population of one thousand, but it always seemed to me it could hardly have had half that number. The one physician located in the town was not anxious to have a competitor. Four months elapsed before I could get an office. I collected about $600 the first year and not much more the second.

Timothy Titcomb said a single man has given no hostages to society and, therefore, has no claims on society. The third year, acting on the theory that a single physician has no claims on society, in spite of my financial stringency, I married the young lady with whom I had had an understanding for several years and who had patiently waited. The first few years of family life were not without financial worries. The third year I collected about a thousand dollars, the fourth year about twelve hundred dollars, the fifth about eighteen hundred dollars and the sixth twenty-one hundred dollars.

Many times during the first few years I would gladly have left and have taken any kind of a job, if I could have paid up my obligations and left honorably; but I would not run away from the debts, so I stayed with them. The sequel proved my reasoning sound.

One reason for this slow progress was that at one time during the first years there were five physicians in the town and the business was much divided; but most of the reasons for lack of clientele was, I suspect, inherent in myself.

Just seven years after I located the pioneer competitor moved to the Puget Sound country and I was to realize that my opportunity had come, for we had many fast friends who, up to that time, were not our patrons. My business increased a thousand dollars during the next year. I had arrived!

THE ORIGIN OF THE ORTHOPEDIC HOSPITAL

To the vision and energy and pertinacity of Dr. Lenore Perky was due the establishment of the Orthopedic hospital. On her own initiative, and at her own expense, she visited the New York Orthopedic hospital, she corresponded with the Superintendent of the Minnesota Orthopedic hospital, drew her committee together, lobbied indefatigably, addressed legislative committees, read a paper before the State Homeopathic Medical Society. She had a few helpers—lay and medical. Of these most deserving of special mention is Mrs. L. W. Pomerene, of Lincoln, her constant co-worker. The story of how Dr. Perky became interested in the crippled children of the state would require too much space to tell. I trust the *details* of the founding of the Orthopedic hospital will be given accurately in the forthcoming history.

Meantime, let us give credit where credit is due.

—Inez C. Philbrick.

DUES

At the next meeting of the A. M. A. a reapportionment of members of the House of Delegates will be made. This will be done on a basis of members of State Associations paid April 1, 1928.

Nebraska must have her total membership paid by that time if we do not wish to lose a delegate to the A. M. A.

Send your dues, $8.00 plus your local society dues, to your secretary at once.

—R. B. Adams, Sec.-Treas.

THE EXECUTIVE SECRETARY'S OFFICE OF THE OMAHA-DOUGLAS COUNTY MEDICAL SOCIETY

The accompanying cut will give you some idea of the new executive secretary's office of the Omaha-Douglas County Medical Society, situated on the 17th floor of the Medical Arts Building, 17th and Dodge, Omaha, Nebraska. Telephone, Atlantic 5197.

This office has been arranged to promote, encourage, and develop the educational advantages of the clinical material of Omaha, and to make them available to visiting physicians. A daily bulletin is posted for the benefit of the physicians of this vicinity who are especially welcomed to take advantage of these operative and special clinical demonstrations, at the twenty hospitals and the two medical schools in this city. There are no fees or charges.

Out state physicians are asked to register in the guest book and make themselves at home.

Large easy chairs and chaise lounges are at your disposal in which to rest if you care to sit around, and bridge tables are available if you feel like wasting a little time amusing yourself. A stenographer is present to do any typing you desire, a telephone is handy if you care to call any friends. Writing desks are available for your convenience. Current medical journals are on the reading table—in short, we have attempted to furnish a comfortable place where you can drop in and enjoy our hospitality while in Omaha.

If you care to receive our bi-weekly bulletin, giving the scientific programs of our society, kindly notify the executive secretary, Miss Emma Sprecher, and she will mail you the same. Our regular meetings are on the 2nd and 4th Tuesdays of each month, which are held in the Medical Arts Auditorium situated on the second floor.

We have a seating capacity for 250 people and you are always welcome.

We sincerely hope, when you are in Omaha. that you will visit our new office.

—Earl C. Sage, M. D., Sec'y-Treas.

LECTURES ON PHYSICAL EXAMINATION BEFORE TEACHERS' COLLEGES

The law of the State of Nebraska requires that every school teacher make a physical examination of her pupils at the beginning of the school year. Heretofore the teachers in their preparation at the various teachers' colleges in the state have received no instruction on how to make such examination.

The Public Activities Committee, realizing the gap between the law requirement and the teachers' preparation, is endeavoring to instruct the teachers how to make a physical examination and carry on a health program by a course of lectures and practical demonstrations to be given at the various teachers colleges of the state. Schedule of lectures being given at the Peru State Teachers College is given below.

Arrangements have also been made to give a similar course of lectures at the Teachers College at the State University during the first term of the summer session. At soon as we have our lecturers organized in all parts of the state we shall carry our program to the other teachers' colleges.

COURSE OF LECTURES

State Normal School and Teachers College
Peru, Nebraska
1928

Responsibility of Teacher in a School Health Program, Dr. H. von W. Schulte.

Physical Examination (Daily Classroom Inspection) (Individual Inspection), Dr. E. R. Hays.

Adenoids and Tonsils, Dr. J. J. Hompes.

Care of the Teeth, Dr. Guy Souders.

Care of the Skin, Dr. C. Tomlinson.

Conservation of Seeing and Hearing, Dr. S. R. Gifford.

Malnutrition: Weighing and Measuring, Rest, Food, Posture, Dr. R. B. Adams.

Control of Contagious Diseases, Dr. P. H. Bartholomew.

First Aid, Dr. C. P. Fordyce.

—E. R. Hays, Chairman Public Activities Com.

A PHYSICIAN LOOKS AT PHYSICIANS' CHARGES

A physician works on a margin of profit quite as directly as a merchant. If an automobile salesman sells you a car, you do not accuse him of having made $1,500 by a half hour's sales talk. The greater part of the $1,500 he must pass on to the original producers of the car. His fee is, likewise, not all for himself; he must pass a considerable part of it on to the original producers of the service he conveys to the patient. Too often, in a particular case, he loses sight of the fact that his knowledge and materials for that case have cost money. In a modern, well-equipped, properly manned office, the overhead expense may be more than 50 per cent of the gross receipts. The fee that is charged must, therefore, include the portion that pays for automobile, rent, medical journals, stenographer and postgraduate courses, as well as apparently paying for the time spent in serving the patient. The "overhead" must be considered in fixing fees.

People are apt to complain because charges for medical services are higher than they used to be. They do not always stop to think how much more they receive for what they have to pay. Our grandfathers paid the doctor a dollar or two to see a case of diphtheria, and the patient usually died. Today it may cost $25, and the patient usually gets well; but it costs that much to get him well. Patients used to come in for an examination and pay $1 for the tongue, temperature and pulse observation. Now we spend hours in going over them carefully, and expend laboratory and roentgen-ray materials. We save lives and limbs, but it requires time, skill, instruments and materials; and the patient, who gets the benefit, must pay the bill. Very often the physician, a poor business manager, pays it himself. Remember then that when the physician's work is well done the patient's fee represents value received.

The physician's work is a sort of salvage job. He saves what he can of the sick man't life, limb, time and comfort. Every other salvage job is paid for on the basis of the value of the thing salvaged; that seems to be accepted as a fair code in all lines save in the practice of medicine. The most closely related example is that of the lawyer. If a lawyer wins a $10,000 lawsuit, even though it requires less time and effort on his part, he gets more for it than for winning a $100 one. If the physician is able to save the life and time of a man who draws $10,000 a year, he is on the same basis entitled to a greater return than for the same services to a man who earns $5 a day. Therefore, in one of its aspects, a physician's fee should be a percentage of a salvage value.

There are some intangible factors entering into the amount of a fee, such as skill and responsibility. One man will earn more by a five minute operation than by a week's hard work; and his skill may be quite a natural gift that cost him no more effort to learn than any one else usually expends. There are some social students who would deny his right to receive more reward for his work than any one else does; but at least, under the present organization, such people as a class command a higher reward, and no individual can reform the situation by failing to take his own advantage of it. Then, there are cases in which the physician assumes considerable responsibility; the risk of life and welfare is on his shoulders and the worry on his mind, even though he does not spend a great deal of time and work on the case. To a patient, it may seem that a high fee is easy money in such a case, if he does not understand the situation properly.

The competent physician surely renders as valuable a service to the community as the banker or the merchant. Most of us feel that his services are even more valuable and fundamental, but for the sake of this argument it will suffice to consider them of equal value and importance. Therefore, the doctor deserves, at the hands of the community, at least equal reward with that of its other useful citizens; he is entitled to live well; to have a good house; to dress up his wife, educate his children, provide for his old age, and be freed as far as possible from the anxiety and uncertainty of existence. This the community owes him as its duty to him. As its duty to itself, the community should keep the qualified physician in a condition to be of maximum service, healthy, satisfied, with sufficient leisure to think, study, and progress, and with sufficient means to keep up with the advancement of knowledge and training. The patient's fee, then, is a contribution on the part of the community, toward keeping the right kind of a man at its disposal for the time of need, and toward keeping this man in the right condition to render most efficient service whenever it may become necessary.

—M. J. Breuer in A. M. A. Bulletin.

MID-SEMESTER MEDICAL GRADUATES

An innovation in medical education came to fruition January 27, when twenty-seven seniors of the University of Nebraska College of Medicine were granted diplomas, after spending the entire summer vacation period and one week of the Christmas vacation period in medical study, thus shortening the time ordinarily occupied in the medical course, by one semester. It was an interesting experiment in modern medical education and will no doubt be taken up by other schools.

Following is the list of graduates:

Glen Beach, Grand Island; Clyde R. Bennett, Guernsey, Wyo.; William E. Bennett, Falls City; Roy S. Cram, Burwell; Henry C. Crozier, Kearney; Alice D. Edstrom, Stromsburg; Gregory L. Endres, Omaha; Earl H. Engle, Ponca; Arthur R. Everetts, Omaha; James W. Graham, Dakota City; Joe Kuncl, Jr., Crete; Arthur M. Mulligan, Beatrice; Gustav N. Nilsson, Omaha; Charles C. Pelikan, David City; John C. Peterson, Geneva; Eric P. Pfeiffer, Fremont; Robert L. Preston, Fremont; Bert W. Pyle, Pawnee City; Robert H. Rasgorshek, Omaha; Carl P. Wagner, Culbertson; William W. Webster, Wray, Colo.; Thomas Wells, Winfield, Kan., and David E. Wynegar, Lincoln.

WHAT A CHILD SHOULD DEMAND OF HIS DOCTOR

A child has a right to demand of his doctor that he be wellborn, that he be ushered into the world with efficiency, dispatch and consideration for his safety and that of his mother. It means that his mother shall have been, for a number of months preceding his debut, under the watchful eye of a physician.

That his doctor instruct his mother in the essentials of dietetics when his first nine months of eating have been provided for. These essentials concern his daily food intake.

That at the end of first year of life he shall have been protected from the three diseases which it has become unnecessary for any child to have, namely, diphtheria, smallpox and typhoid fever.

That he be guarded against the hazards that make up the "school diseases", such as eye-strain, bad posture, fatigue, nervousness, malnutrition, and the hundred and one defects of the modern American child that accompany the school as it is so often administerel by those who view the child as plastic material to be fitted to the school.

That his emotional life be safeguarded. This safeguarding in many cases will come only when a wise and sympathetic doctor has taught young parents just what are some of the dangers that may come in the train of neglect of their child's emotional life.

—From "Children, The Magazine for Parents".

EDITORIAL PARAGRAPHS

There are said to be 150,000 insane in the United States.

Fifty per cent of the operating expenses of a hospital goes into the payroll.

It is said that the post operative mortality of hospitals has been reduced, under standardization, from 18% to 2%.

Early announcement is made of the sixth annual Kansas City Fall Clinical Conference to be held October 9, 10, 11, 1928.

The University of Chicago College of Medicine has during its existence received donations to the amount of $25,000,000.

The United States Pharmacopea has been adopted as the official Pharmacopea of Cuba and a Spanish edition has been published.

The city of Lincoln has passed an ordinance making it a felony to apply for and receive medical treatment at the free clinic if able to pay.

Surgeon General Cumming of the Public Health Service reports that not a single case of a quarantinable disease entered the United States during 1927.

The Lincoln health department has been reorganized and renamed the Lincoln Medical Board, under the superintendency of Dr. M. F. Arnholt, for the past seven years director of clinics. Civil service has been inaugurated and the work modernized in every way.

Laws regulating medical expert testimony were passed in Wisconsin and Rhode Island in 1923, in California in 1925 and in Ohio in 1927. The bureau of legal medicine of the American Medical Association is working on a proposed bill which shall make it the duty of the court to appoint medical experts.

The proceedings of the annual Councilors' meeting are published in this number. This contains the financial statement and the reports of the officers and the committees. It gives you a better viewpoint of the activities of the association than you can get from any other source. Read every word of the report.

Dr. MaBelle True of the Children's Bureau, Washington, is in the state making a survey of maternal mortality cases reported the past year, by getting complete case histories of all cases reported. It is hoped in this manner to arrive at the primary cause of death and to lead to more thorough preventative measures in the future.

Alastrim, a disease prevalent in Latin America, is believed to have been identified as mild smallpox. A definite cross-immunity has been established between alastrim and mild smallpox. This disease is also known as Cuban itch; although it must be said that in the United States the term "Cuban itch" has been rather loosely applied to other itching diseases.

If your article does not appear in the first Journal issued after you mail it, the probabilities are that the editor could not find room for it or that it was crowded out by material, he, in his best judgment, thought more timely. In good time it will appear and will then look just as good to you as if it had been printed at once. Editors are human and they try to please all contributors.

The 13th Annual Convention of the Catholic Hospital Association of the United States and Canada and the Second Annual Hospital Clinical Congress of North America will be held in the Cincinnati Music Hall, Cincinnati, Ohio, June 18th to 22nd, inclusive, 1928. The Fourth Annual Convention of the International Guild of Nurses will be held at the same time, in the same building, at night meetings.

Treasury Department, Regulations No. 5, reads: "Practitioners may dispense narcotic drugs to bona fide patients pursuant to the legitimate practice of their professions without prescription or order forms. * * * Physicians * * * are not required to keep a record of drugs dispensed to persons upon whom, in the course of their professional practice, they are in personal attendance". (Articles 94 and 96).

The Council on Medical Education of the American Medical Association has inspected during the last year every irregular borderline institution professing to offer courses for those who are to practice the healing art in any of its branches by any method, and has issued a report thereon. The report shows there are forty Chiropractic schools and ten Naturopathic schools—an offshoot of Chiropractic.

Reports have come from several points in the state of epidemics of smallpox and also of chickenpox in the same community, according to the viewpoint of the doctor reporting. While it is not impossible for the two diseases to be present in the same community at the same time, it is improbable and confusing. We will never get very far with contagious disease prevention until we adopt the Minnesota method with regard to smallpox—stop quarantining and advocate universal vaccination, thus putting it up to the people to protect themselves.

At the secretarial and editorial conference in Chicago lately, Dr. Allan Bunce, of Atlanta, said they licensed men midwives in the remote and backward counties of Georgia as a matter of necessity, for there were entire counties without a physician. Word comes to the writer from Wisconsin that a man with a family of four children, living on a cut-over forty in a remote section, applied to the traveling library for a book giving in detail what proceedure to follow in case of child birth where it is impossible to get a physician. People living in remote sections face a real problem when a physician is badly needed.

"The Hebrew Physician", (HaRofeh Holvree), the only medical journal published outside of Palestine which is written in Hebrew, has just made its initial appearance. This Journal is under the editorship of Dr. Moses Einhorn and Dr. A. Goldenstein. It contains articles on general medical subjects and has a special section devoted to new Hebrew medical terminology. All physicians who are interested in this journal are requested to communicate with the editors. addressing them c/o "The Hebrew Physician", 286 West 86th St., New York.

Just what excuse there is for the appearance of this foreign language medical journal in English speaking America is not clear to this editor.

NEBRASKA CHIROPRACTIC COLLEGE, INC.

(Inspected July 9, 1927, by the Council on Medical Education, of the American Medical Association)

This school now occupies six small rooms on the second floor of the Orpheum Building, 1134 P St., Lincoln, Nebraska. It began on O St. in 1905, moved later to 217 S. Twelfth St. (?), and then came to its present address, but at no time has it changed its name. It is now owned by two women, Dorothy Crane, D. C. Ph. C., president, and Freda C. Kuehne, A. B., D. C., Ph. C., secretary. They give their full time to the school and also employ two or three other instructors to give such courses as physical diagnosis, mechanotherapy, bacteriology, etc. If possible, a doctor of medicine, an osteopath, or a student at the University of Nebraska is secured for such subjects.

No announcements have been published for a year. There are now 20 students, eighteen of whom are said to be men. They begin their study any time and continue as long as the law of the state where they want to practice demands. High school graduation is not demanded of matriculants unless the law of their chosen state demands it. Graduation exercises are held twice annually; the last two classes numbered 17 and 8.

Two of the six rooms are used for offices, two are lecture rooms, and two are fitted up with five tables each for clinic use. There are said to be from 50 to 150 patients daily. Lectures and clinics continue from 1:00 to 8:00 p. m. daily, with special review work for those who need it in the forenoons. Standard medical texts are said to be used; a few quiz compends were seen. The school boasts of one microscope, and the secretary has quite recently purchased a new Studebaker car. She states that she has made far more money teaching chiropractic than she was able to make teaching Botany at the University.

THE SOCIETIES

The **Madison County (Five Counties) Medical Society** met at the Hotel Norfolk, Norfolk, January 24. Following a dinner of forty-two covers, the program was presented by Drs. Harry Everett, Roscoe Smith and John Thompson, Lincoln. Dr. Everett spoke on "Injuries of the Abdomen". He stressed rigidity and costal breathing as the outstanding signs of trauma within the abdomen and an anxious expression and liver dullness as close seconds in the differential diagnosis. Dr. Roscoe Smith spoke of "X-ray Diagnosis" and showed a number of beautiful plates taken after lipiodol injection. Dr. Thompson spoke in an able manner of certain phases of heart disease.

The **Platte County Medical Society,** at the annual meeting and dinner at the Evans Hotel, Columbus, elected Dr. F. A. LeMar, Humphrey, president; Dr. C. D. Evans, Jr. Columbus, secretary-treasurer; and Dr. E. E. Koebbe, Columbus, delegate. A round table discussion of subjects of interest to the profession constituted the program.

At the annual meeting of the **Johnson County Medical Society,** held at Tecumseh, January 18, Dr. G. J. Rubelman was elected president; Dr. A. P. Fitzsimmons, secretary-treasurer; and Dr. J. M. Curtis, delegate, all of Tecumseh. The program of the evening consisted of a round table discussion of matters of general medical interest.

The annual meeting of the **Buffalo County Medical Society** was held at the Fort Kearney Hotel, January 27. Dinner was served to the members after which a business meeting was held. Dr. D. T. Sidwell was elected president; Dr. Royal Jester, secretary-treasurer.

The regular monthly meeting of the **Richardson County Medical Society** followed a dinner at the Hotel Weaver, February 1st. The program consisted of a series of extemporaneous talks on assigned medical subjects. This society has a membership of twenty-three physicians.

HUMAN INTEREST TALES

Dr. Charles A. Hull, Omaha, has been very ill recently.

Dr. W. C. Zulauf, Belden, has decided to locate in Chicago.

Dr. Hibbard, formerly of Omaha has located at Lodge Pole.

Dr. I. W. Irvin has become president of the Auburn Kiwanis club.

Dr. and Mrs. A. J. Cameron, Herman, have gone to Florida for a period.

Dr. Edward J. Gillespie, formerly of Fullerton, has located at Plattsmouth.

Dr. and Mrs. George Walker, Lincoln, have returned from a trip to Cuba.

Dr. O. L. Asher, formerly of Clarinda, Iowa, has located at Nebraska City.

Dr. H. Gifford, Omaha, is supposed to be wandering somewhere in Tropical Africa.

Dr. Clarence Emerson, Lincoln surgeon, was a victim of diphtheria in February.

Dr. H. R. Palmateer, Madison, suffered broken ribs in an auto accident a month ago.

Dr and Mrs. H. F. Neal, of Meridian, Idaho, visited Dr. Neal's mother at Peru, last month.

Dr. and Mrs. J. P. McPherson, Hastings, have returned from a five months' trip to Europe.

Dr. C. C. Shepard of Ord has been seriously ill and a patient at a Lincoln sanatarium the past month.

A branch state laboratory of the state board of health is to be opened at Scottsbluff, about April 1.

Dr. William R. Boyer of Pawnee City has been appointed a member of the state medical examining board.

The marriage, February 15, of Dr. Frank Jensen to Miss Inger Engelsgjerd, both of Newman Grove, is announced.

Dr. W. E. Shike, Gering, has about recovered from severe injuries sustained last summer on a motor trip in Colorado.

The office building of Dr. W. F. Mitchell, Superior, was gutted by fire recently entailing a loss of several thousand dollars.

The Blue Valley Hospital at Hebron is to be reopened since the return of Dr. Loetta Bowles, owner, from a period of study.

Dr. and Mrs. G. A. Byers, former Nebraskans, now located at Red Deer, Alberta, visited Dodge county friends and relatives recently.

Dr. and Mrs. J. P. Lord, Omaha, have gone on a trip to the Southwest and expect to return via the Panama Canal in early spring.

Dr. W. Howard Heine, Fremont, has gone to Vienna for special work in eye, ear, nose and throat conditions. Mrs. Heine accompanied him.

Dr. Jennie Callfas, Omaha, national democratic committeewoman from Nebraska, attended the committee meeting in Washington, recently.

At the annual election of the pre-medical group, at the State University, Chauncey Hager of Ord was elected president of the Nu Medic society.

Dr. Walter Wasson of the University of Colorado Medical School addressed the Lancaster County Medical Society, January 17, on "The Hilus of the Lungs in Disease".

NECROLOGY

George N. Whittier, Holdrege, Nebr.; General Medical College, Chicago, 1888; a practitioner at Holdrege, for about 26 years; died January 11, 1928.

Frank S. Agler, Surprise, Nebr.; Keokuk Medical College, 1900; formerly a practitioner in northern Iowa and member Iowa State Medical Society; was found in his office, a suicide, January 30, 1928, aged about fifty years.

Schuyler C. Lambert, Chicago; Chicago Homeopathic Medical College, 1910; chief surgeon for the International Harvester Co., for the past 14 years; born at Neligh and educated in the schools of Nebraska; died at Rochester, Minn., January 27, 1928, aged about fifty-two years. Burial, Neligh, Nebr.

Fred. W. Woeppel, Wahoo, Nebr.; Creighton University, College of Medicine, 1905; was struck down by a passing motorist as a result of which he died, February 1, 1928, aged about 51 years.

Herbert N. Warren, Washington, D. C.; college data unobtainable; not in practice; a number of years ago a practicing physician at Wisner, Nebr., died recently at Washington, D. C.

SAFETY FIRST IN HISTORY

When Adam, so the records state,
With clothing quite inadequate,
Refused to leave the garden gate—
Now that was Safety First.

When Noah heard that there would be
A terrible catastrophe,
He built an ark to sail the sea—
Now that was Safety First.

When Solomon, the great and wise,
Had wives he used to idolize,
He locked them up like bees in hives—
Now that was Safety First.

When Arthur and his gallant Knights
Got ready for their bloody fights,
They clothed themselves in metal tights—
Now that was Safety First.

When Indian Chief stood up and said
That Captain Smith must lose his head,
Then John, he wooed the girl instead—
Now that was Safety First.

When Red Coats, close on Lexington,
Heard guns, they started on the run;
Their backs were toward the setting sun—
Now that was Safety First.

When the Kaiser heard his troops divine
Were being chased back to the Rhine,
Decided he would cross the line—
Now that was Safety First.

When Jones, who worked along the line,
Scratched his left thumb and at the time
Applied a little iodine—
Now that was Safety First.

—The Synchronizer.

THE CIVIL LEGION

The Civil Legion, a national organization composed of those who in non-uniformed activities rendered patriotic service to the national cause, during the World War, has held its second national convention and elected as its officers the following:

National President—Charles R. Wilson of West Virginia.

National Vice-Presidents—Tom Jones Meek of New York, Charles A. Howard of South Dakota and J. C. Heinlein of Ohio.

National Secretary—John P. Tansey of Chicago.

National Treasurer—Frank G. Hajicek of Chicago.

National Legal Advisor—Hon. William Lloyd Harding, War Governor of Iowa.

National Chaplain—Rt. Rev. James H. Darlington, Episcopal Bishop of Harrisburg, Penn.

National Historian—Miss Leafa H. Seibert, of Prophetstown, Illinois.

Following are members of the State Committee of Nebraska:

Dr. E. M. Stewart of Imperial, Dr. A. J. Ames of Potter, Dr. Henry H. Seely of Harvard, Dr. John W. Bozarth of Lexington, Dr. M. B. Patty of Chappell, Dr. John H. Wallace, Dr. Wilson H. Reed and Dr. William L. Shearer of Omaha, Dr. Joseph Bixby of Geneva, Dr. J. W. McLeran of Beatrice, Dr. George H. Morris of Oshkosh, Dr. J. P. Gilligan of O'Neill, Dr. W. E. Paxton of Paxton, Dr. Harry A. Taylor of University Place, Dr. E. F. Carr of Stapleton, Dr. Firman M. Bell of Grant, Dr. C. W. Doty of Beaver Crossing, Dr. William A. Ring of Hebron, Dr. Harry J. Newell of Alexandria, Dr. Jerome C. McKinley of York.

National Headquarters are at 163 West Washington Street, Chicago, Illinois.

The Civil Legion is to its members what the American Legion is to the ex-service man.

TREATMENT OF ACUTE EPIDIDYMITIS

The treatment of acute epididymitis employed at Bellevue Hospital is described by Meredith F. Campbell, New York (*Journal A. M. A.*, Dec. 17, 1927), as follows: The patient with acute epididymitis is put to bed and given a cathartic, and the testes are immobilized. An ice cap to the inflamed parts adds comfort, although some patients are more relieved by heat. Wet dressings are not used. Splinting of the scrotal contents gives most rapid relief from pain; not infrequently immediate relief is secured. The scrotal splinting is obtained with the adhesive suspensory devised in the urologic service at Bellevue as a modification of the Alexander muslin suspensory. Epididymotomy affords immediate relief from pain and is indicated in one of every fifteen cases. On the average, the patient who is operated on is hospitalized only 3.7 days longer than the one in whom operation is not performed. The adhesive scrotal compression bandage here described assists admirably in preventing postoperative scrotal hematomas. Most complications result from secondary infection. Careful follow up has, in a rather limited series of cases, indicated that stirility is less frequent in the bilaterally involved organs subjected to epididymotomy.

ANNUAL MEETING, HASTINGS, MAY 15, 16, 17

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THE DIAGNOSIS AND TREATMENT OF TRIGEMINAL NEURALGIA MAJOR*

W. T. COUGHLIN, M. D., F. A. C. S.,
Professor and Director of the Department of Surgery, Saint Louis University School of Medicine, Saint Louis, Missouri.

There are many diseases characterized by severe pain in the head or face and for most of them sometime or other in his career the physician is consulted. To be able to make a diagnosis is his first anxiety and then his care to administer the proper treatment.

An understanding of pathology, it is generally conceded, is a requisite to successful practice and yet here is a disease, to our shame be it said, of which the pathology and etiology are both unknown even though the disorder has been recognized by the profession for very many years.

Major trigeminal or trifacial neuralgia seems to be a distinct clinical entity and among the painful afflictions of head and face stands out clearly as does lobar pneumonia among diseases of the chest, yet this disease although it be of such a nature as to have so far resisted all the efforts of the physician's art even though so far the pathologist has failed to discover any constant physical abnormality associated with it and in spite of the fact that its severity not only totally incapacitates its victim but leads him in despair to morphine or to suicide, still it is a permanently curable disease and that at only slight inconvenience to the patient and without any risk to his life.

This is a disease one rarely sees before the age of thirty although I have had two patients in whom it began about the twenty-first year and a case has been recorded of its occurrence in a child of nine. From thirty-five to fifty is the most usual age of onset but it would seem that even old age does not confer immunity. In one of my patients the disease first began at the age of seventy-seven.

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*Read before annual meeting Missouri Valley Medical Society, Des Moines, September, 1927.

Males and females are attacked in about the same proportion and there does not seem to be any occupation or condition in life which either predisposes or exempts.

Bad teeth have been blamed for a great many of our ailments and it would seem that the first therapeutic effort ever directed against this disease is directed against the teeth whether these be good or bad. Almost every patient who has come to me has had teeth previously extracted—some have had *all* removed in a vain effort to obtain relief.

It has been asserted by some that this disease is an ascending neuritis of infectious origin beginning in a nerve-ending in a decayed tooth. If this were so why should it happen that the disease may first begin long after the last tooth has been extracted?

When removal of the Gasserian ganglion was practiced for the cure of the disease certain pathologists discovered an "arterio sclerosis of the ganglionic vessels". But when we reflect that by far the greater number of these patients are at an age when some arterio-sclerosis is the rule and that the disease has occurred in cases wherein no arterio-sclerosis could be demonstrated we cannot accept arterial disease as its sole pathology.

The facts that removal of the ganglion or severance of its sensory root permanently cures the disease would seem to indicate that the cause lies in the ganglion. It has been maintained that ganglion removal or root cutting would also cure the disease were the cause either in the cortical cells or at any point between these and the ganglion. But, as I said before, the cause of this disease and its pathology have not yet been discovered and to theorize about them is just losing time.

The patient is usually a healthy person of upward of thirty years of age when he is first stricken. He is most often going about his usual work when suddenly he is struck by a very severe sharp stab of pain somewhere in the trigeminal field. It is agonizing while it lasts but fortunately the paroxysm is soon over. While he is examining the spot to find a possible cause he may have another paroxysm just as severe or worse. Sometimes the suffering during the seizure is most exquisite torture, during others less severe. The spasms may follow each other at intervals of only a minute or two or the interval may be half an hour or longer.

It is very unusual for this disease to begin at night and usually during the early attacks the spasms disappear shortly after the patients retire for the night. I have had one patient who never had an attack as long as he remained lying down. Later in the disease, however, it is very commonly found that the only sleep the victim obtains is purchased by opiates or analgesics. The attack lasts from a few days to several months. Early in the disease the interval of freedom is long and the attack likely to be of short duration but as time passes the duration of the attack lengthens and the interval of good health is shorter.

When an attack is on, the patient is quite incapacitated for work. Movement increases the frequency and severity of the paroxysm. Speaking, swallowing or even a draught of cold air is at times sufficient to provoke a spasm.

There is, as said before, some point where the pain begins, and when the middle division is first involved—which it is most frequently—then this starting point is usually in the upper lip about the nasolabial furrow. But it may be at any spot in the trigeminal field on the surface or inside of the mouth that this starting point is located. Generally it corresponds with a spot where a branch of the nerve becomes superficial emerging from bone or from the deep fascia. It often happens that even the lightest touch or movement of this spot will provoke a spasm. Shortly after the onset of an attack the whole trigeminal area of the side involved becomes tender to light touch and even washing that side of the face or chewing on that side of the mouth are quite impossible. It is no uncommon sight to see that side of the face covered with dirt and that side of the tongue coated.

Often heavy pressure during the paroxysm gives relief and the patient grasps the spot or rubs it violently while the spasm is on. I have seen the face with the skin rubbed off by this procedure. Sometimes there is a change of color of the skin of that side of the face. I have seen it become very red during a spasm, also I have seen the tears flow copiously from the eye of the affected side, the conjunctiva of which was reddened.

At any time with treatment or without it the spasms begin to diminish in their frequency and their severity and finally they cease altogether and the attack is over. As the disease progresses the attacks last longer and by depriving the patient of rest and food they greatly lower his vitality or indeed not only is he physically weakened but he may become insane and such patients have been known to commit suicide.

Now there are many neuralgias and pains about the head and face but there is *only one* "true tic" or "true trigeminal neuralgia major" and it is as I have described characterized by attacks occurring and recurring without regard to season during which the patient experiences paroxysms of terrible pain of numberless repetition but with complete freedom from pain between these spasms.

I have never seen nor read of any other disease like it and yet it often happens that the wrong diagnosis is made. I have never known "true tic" to be mistaken for any other disease but have often seen cases wrongly diagnosed "true tic".

There is a neuralgia described by Sluder of Saint Louis, in fact we call it Sluder's neuralgia. This disease is characterized by pain beginning about the root of the nose radiating across the orbit or below or above it to the ear and behind this toward the sub-occipital region, and often down the side of the neck to the shoulder or even the whole extremity. I have recently seen one who said it affected her whole right side.

I have never known the pain of true tic to extend outside the field of the fifth nerve. In the cases of Sluder's neuralgia that I have seen there was more or less constant ache or pain about the root of the nose or orbit or mastoid with exacerbations or paroxysms of greater intensity. Also in this disease there is often a spot of greatest intensity, sometimes of soreness, just behind the base of the mastoid, a thing which never happens in "true tic". Many of them describe the pain as "throbbing". It also happens that cocainization of the nasal mucosa particularly in the region of the posterior end of the middle turbinal can on occasion relieve for a time a neuralgia of this type a thing which does not happen if the case is one of "true tic".

Pains and headaches due to eye strain or to sinus disease of any kind should never cause any error in diagnosis no more than should migraine. One sometimes finds cases of neuralgia in young women, less frequently in men, which cause them more or less invalidism. In these the pain is in the temporo-malar and infra-orbital region. It is constant and severe. Like true trigeminal neuralgia major it is of no known etiology or pathology but unlike the latter it yields to almost any form of treatment but preferably to that of some of the cults for a time and is never made worse by the patients talking particularly not by talking about the terrible suffering it causes him. It would appear on close observation that such patients suffer less than the family and those in attendance. If such patients should develop true tic much might be done for them but if a surgeon be so unfortunate as to operate one of them for a case of true tic, for long thereafter shall his peace of mind be troubled and his heart yearn in vain regret.

Now as to the treatment of this, one of the most terrible of all the ills to which human flesh is heir, there is little to be said—it can be relieved for a time or it can be cured permanently.

As a method of temporary relief alcohol injection holds first place while for permanent cure there is no method so good as section of the sensory root of the Gasserian ganglion.

If one or two cc. of alcohol 70% or stronger is injected into the sheath of the division involved where this latter leaves the skull the relief is immediate but not permanent. The alcohol destroys the nerve fibers and relief will endure until these can be reproduced. Of course, the difficulty is to get it properly injected. If the point strikes the nerve fairly and enters the sheath the result is more lasting. If there is no relief or if it lasts but a few days or weeks it is highly probable the nerve has not been injected. I have some who have had no recurrence in sixteen and seventeen years but most of them have come back sometime in the second year. At each subsequent injection the relief is usually for a shorter time. I have never seen any one to be much relieved after the fourth fair injection. Obviously this is not a method to be used in treating neuralgia of the first division—which division is rarely involved—because of danger to the optic and oculo-motor nerves.

It seems that many consider the injection of alcohol as being free from danger. I warn you that this is not so. It is not only dangerous to sight and hearing, it is dangerous to life. Cushing, some years ago, made a study of the reports of accidents due to alcohol injection and published an article thereon in the Journal of the American Medical Association. After reading it one will not be enthusiastic for alcohol injection. I myself had one patient who lost an eye after an alcohol injection of the ganglion.

After having had alcohol injections until they no longer relieve most of the patients ask for the radical cure.

It is surprising what a lot of ignorance or misinformation exists among the profession with regard to this operation. Many patients have been told that it has a 30% death rate or higher, others that it is certain to cause paralysis and some even that insanity is likely to follow. Really, it is surprising to know that a majority of the patients have been counselled by some physician not to submit to this operation.

With regard to the mortality let me say that I know of no major operation in my practice with a lower death rate than root section under local anaesthesia. I have so far operated on seventy-six patients without recurrence and without a death. What other major procedure has a lower mortality? Nor is this an isolated record, Cushing, Frazier, Adson, and others with much larger lists find the mortality less than 1%.

With local anaesthetic this operation can be almost painlessly done, often am I told that "It doesn't hurt so much as having a tooth filled". But there are people who *can* not and *will* not be operated without going to sleep—for these we must use a general anaesthetic.

With local anaesthetic one knows when the root has been completely severed, thus there are no recurrences. This is not the case with those operated under general anaesthetic, and no matter how high a blood pressure may be it is no contra-indication to operation by my method.

Patients who have high blood pressure or renal disease bear the operation under local anaesthesia quite as well as those in normal health. With this method there is less shock, less bleeding—never have I had to pack the wound and quit—less injury to the brain and no post-operative complications. I feel quite convinced that local anaesthesia has robbed the operation of its serious dangers and regard it as less dangerous than the alcohol injection.

The patient is given a hypodermic injection of 1/8 gr. morphine and 1/200 gr. hyoscine one hour before operation. The operation is done with the patient sitting up in a dental chair. Should the patient become weak, as some do, he is put in the reclining position.

There is no flap turned, all is done through a straight incision which is kept within the hair line thus avoiding a visible scar. The opening in the skull is low down and never larger than half-a-dollar. The dura is pushed aside, the middle meningeal artery is ligated or else its foramen plugged with a wooden peg and the ganglion exposed to plain view. One can see the sensory fibers attached to its posterior border and these are cut a few at a time but the motor root which passes to the mesial side of the ganglion is preserved.

This refinement we owe to Frazier of Philadelphia. Frazier of late has been advocating the cutting only of the lower two-thirds of the sensory root. This is not certain to prevent recurrence and usually the patient is anxious to have done with it forever. Hutchinson of London removes the lower two-thirds of the ganglion and has been doing so for long, the results seem to him satisfactory.

The wound is always closed without a drain and in all but one healing has been by first intention.

Now with regard to the unpleasant consequences of this operation a few words must be said. The whole area supplied by the fifth nerve is rendered insensitive to light touch and to pain. There is an unpleasant sense of numbness of lips, tongue and cheek to which the patient adjusts himself after a few weeks. The corneal reflex is lost as well and there is danger of foreign material (dust, dirt, etc.) getting into the eye. Should this happen a conjunctivitis may be set up and such might result in the loss of vision of the eye, or even of life itself. I have never had any unpleasant eye sequelae with intelligent patients but some of the very ignorant have had serious trouble. I want to state that in my opinion this eye trouble is not entirely a trophic disturbance. The only trophic disturbance seen comes on in from one to three days after the operation—a form of herpes which attacks not only the eye but sometimes the whole field of the fifth. This takes from three to ten days to get well and it always gets well if properly allowed to do so. I keep the eye closed during the first week or else have the patient wear a protecting rubber-rim goggle—when the patient leaves the hospital he is instructed to protect the eye with an ordinary goggle while in the wind or dust, and to wash the eyes with warm saline before he goes to bed.

There is sometimes a paresis of the facial nerve (Bell's Palsy) following the operation. It is not permanent but usually passes off after a few months. There are various theories as to its cause, but no real knowledge.

There are certain paraesthesiae in the field of the trigeminal and they sometimes are quite annoying. They vary from slight tingling and crawling sensations to those of a painful burning, aching, boring, or bursting nature. Fortunately these soon pass off.

But nothwithstanding these inconvenient and unpleasant but evanescent sequelae the patients all without exception are extremely grateful to be rid forever of their tormenting tic douloureux, and like the woman who found the groat, each seems anxious to publish the good news, and I have often known them to go much out of their way to influence a fellow sufferer to partake of the same treatment and enjoy a like happiness.

THE DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS*

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The diagnosis of incipient pulmonary tuberculosis is difficult or simple, according to one's viewpoint. The task is formidable if significance is attached to the innumerable refinements in diagnosis, including many of the physical signs, meticulous radiographic interpretations and questionable laboratory procedures. These refinements are difficult to appraise, are often misinterpreted, and to my mind are of negligible value in the recognition of the disease. On the other hand, the helpful aids in diagnosis are simple and readily mastered.

The term "incipient" or "minimal" tuberculosis means to me a lesion occupying an area not larger than that represented by the upper third of one lung. The lesion is not confluent but discrete, with intervening zones of healthy tissue, and in most instances is located in the upper part of the lung. The inflammation is chronic and spreads by continuity or by aspiration of infected material, rarely by means of the vascular channels. The lesion may heal without ever passing beyond the early stage, or progress so slowly that months or even years may elapse before the more advanced stages of the disease are reached.

According to my inquiries, incipient pulmonary tuberculosis occurs in general practice in less than one per cent of patients. Failure to detect the disease may be attributed in part to this fact. The age, but not the sex of the individual is relevant. The disease occurs at puberty and in the aged, but predominates among young adults, particularly those who have been intimately exposed to the disease. The relation of the patient's constitution to tuberculosis, although as yet imperfectly understood, probably is quite important. On the other hand, the influence of environment has been over-emphasized. In regard to occupations, silica inhaled in dust is the only substance so far known to be capable of inciting activity in a latent tuberculous lesion. The administration of anaesthetics, trauma, parturition, and exposure to severe weather at times have a similar effect.

The health record of tuberculous patients is often excellent. Previous diseases rarely are responsible for the activation of a latent tuberculous focus. Diabetes mellitus is probably the one exception. Chronic adenitis, chronic otitis media and ischio-rectal abscess are common complications of pulmonary tuberculosis and suggest its presence.

The symptoms aroused by an incipient lesion vary considerably with the constitution of the individual and the nature of the lesion. In a few instances the health is apparently unimpaired throughout the course of the disease; in others the symptoms are severe, but in the large majority they are mild.

Symptoms may be conveniently divided into two groups: The general or extra-pulmonary, and the local or pulmonary.

GENERAL SYMPTOMS

Lassitude. One of the most frequent and in many ways the most imporant of the general symptoms is lassitude. The patient begins the day's work refreshed, but during the afternoon and evening feels unaccountably listless, and this may continue for months before the appearance of the other symptoms. Nervous irritability, vaso-motor disturbances, insomnia and indefinite muscular pains may be associated with the lassitude.

Nutrition. One of the conspicuous and misleading features of the disease is the healthy appearance of the patient. In approximately half of the patients the loss of weight is negligible; while in the others the loss rarely represents more than ten per cent of the body weight. Noticeable loss of weight may be attributed frequently to associated digestive disturbances. Anorexia, nausea and other functional gastro-intestinal derangements are not uncommon. They may be the first manifestations and persist throughout the course of the disease.

Sweating is an inconstant factor and generally occurs during the hours of sleep. It is usually not profuse and is confined for the most part to the chest and abdomen.

Elevation of temperature is a cardinal and common symptom. Although the temperature curve is not characteristic, a slight, persistent, unexplained rise of temperature in the afternoon, ranging between 99.4° and 100° by mouth is an important diagnostic lead. The elevation of temperature may occur for only a few hours during the day and demands frequent temperature readings, preferably at 10 a. m. and 3, 5 and 8 p. m. A reliable thermometer is a requisite. It is well to remember that this symptom often is not recognized by the patient or physician because the slight elevation of temperature does not cause flushing of the cheeks or otherwise inconvenience the patient.

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The *pulse rate* is normal in many; when accelerated the rate is usually 90-100, seldom above 110. At times it may be increased, and the temperature remain normal. The pulse rhythm is not disturbed and the blood pressure readings are without definite diagnostic significance.

LOCAL SYMPTOMS

Cough is regarded by the laity, and at times by the physician, as the most outspoken symptom of the disease. This holds true for the disease in the advanced, but not in the incipient stage. In the latter, the absence of cough is by no means unusual. When present it is generally slight and hacking in character, but may be severe. One must determine whether this symptom is due to some condition in the upper respiratory tract or to the pulmonary lesion. Its origin may be assumed to be pulmonary if the history indicates that the cough dates from the onset of the illness or became aggravated at that time.

The *expectoration* when present is mucoid or muco-purulent, never offensive, and varies in amount from one to four teaspoonfuls a day. Large amounts of purulent sputum speak for the more advanced stages of the disease. In approximately seventy-five per cent of early cases, tubercle bacilli are absent from the sputum.

Hemoptysiss Pulmonary hemoptysis is unquestionably the most significant of the local symptoms. The amount of the hemorrhages varies from a few drams to several ounces. Copious hemorrhages speak for the more advanced stages. Pulmonary hemoptysis is not a pathognomonic symptom because it is common to many other pulmonary diseases, notably fuso-spirochetal infections. The expectoration of a small amount of blood, a teaspoonful or less, must be cautiously interpreted, because of the difficulty in determining its origin: whether from the upper or lower respiratory tract.

Hoarseness: Some patients are noticeably hoarse or complain of transient huskiness of the voice, particularly after prolonged conversation. If the laryngoscopic examination is negative, then the huskiness is probably due to fatigue of the throat muscles. In others, the huskiness is persistent and the larynx may be diffusely injected or unduly pale. However, a localized tuberculosis of the larynx in early disease is rarely encountered.

Pleuritic pain is a common complaint. It may be agonizing, but more often is dull-aching in nature. It is unilateral in distribution and for the most part confined to the base of the chest. When the pain is the initial symptom it may be mistaken for intercostal neuralgia.

The symptoms in early tuberculosis are important because frequently they offer the first clue to the diagnosis. Although occasionally severe, they are generally so mild that they are required to be elicited by the physician. In some patients the general symptoms are manifest and the local are in abeyance. Here procrastination in diagnosis often occurs until the local symptoms appear. In others, the symptoms are entirely local and quickly arouse suspicion as to the nature of the disease. However, in the majority of patients both the local and general symptoms are evident. The marked symptoms occurring with advanced disease: pronounced fever, drenching night sweats, urgent dyspnoea, etc., require no mention here. The problem then is one for the therapeutist and not for the diagnostician.

It is to be remembered that some or all of the symptoms here enumerated occur in a wide variety of other conditions. However, if they remain unexplained for two months or longer the possibility of tuberculosis should again be considered.

PHYSICAL SIGNS

In text books on Physical Diagnosis, one is told that the signs in incipient disease deviate but slightly from those that obtain in health. The description of the normal lung signs is but casual or entirely omitted, probably because it is presumed that the reader is already familiar with them. For some years I have studied the physical signs of the normal chest and am convinced from these observations that the slight deviations referred to in the text books as valuable in diagnosis are not an expression of the disease, but simply variations of the normal signs. My studies, particularly of the supra clavicular depressions (1) and breath sound changes (2) apparently support this view.

Rales: This is the only sign which cannot be confused with the normal signs because it is an extraneous sound, and herein lies its preeminent value in diagnosis. Rales can be heard in 90% of cases in the early stage of the disease. In 25% they are heard on quiet or forced breathing, while in 75% they remain latent until the patient is directed to cough. The marked increase in the intrapulmonic pressure associated with cough, by ventilating the atelectatic areas of the lung, produces rales which are otherwise not heard. The patient should be directed to cough forcibly and toward the end of the expiratory phase.

Among the innumerable physical signs advanced as aids in the diagnosis of incipient tuberculosis, the rale is the only one to be relied upon. It possesses greater significance than all the other signs combined, and the diagnosis of pulmonary tuberculosis is justified by the detection on several examinations of persistent latent rales confined to the summit of the chest.

The x-ray may prove of invaluable aid when the diagnosis is in doubt. Fluoroscopic examination visualizes the movements of the chest and contained viscera, but is inferior to the chest radiogram for revealing evidence of disease. The radiogram is merely a study of lights and shadows, and its interpretation, contrary to accepted opinion, is quite simple. If one is familiar with the location of the light and dark zones of the normal chest radiogram, the diseased areas in the lung are readily recognized. A light zone occupying the place of a normal dark zone invariably means a pathological density of the lung in this area. Consequently, such light zones, confined to the upper portion of the lung field, are presumptive evidence of pulmonary tuberculosis because the summit of the lung is the site of election in this disease. There are other pulmonary diseases which cast a localized shadow at the summit of the lung, but they are rare and do not offer much difficulty in differential diagnosis.

LABORATORY

Tuberculin Test. A positive tuberculin test indicates the presence of a tuberculous focus somewhere in the body. It does not, however, differentiate the small encapsulated or healed focus without clinical significance from the progressive type of lesion associated with symptoms. Little importance, therefore, can be attached to the tuberculin test except in those very rare instances where the tuberculin produces a demonstrable focal reaction in the lung. Conversely, tuberculosis may be ruled out if the test is persistently negative.

Complement Fixation Test. The results with this test obtained to date by various observers are confusing, and thus far, a positive reaction like the tuberculin test, has not proved serviceable in differentiating clinical from non-clinical tuberculosis.

The examination of the blood, the urine and the feces is of questionable value.

The Sputum. The detection of tubercle bacilli in pulmonary sputum is the one certain criterion in diagnosis. When the tuberculous disease is confined to the base of the lung, the sputum examination becomes of first importance. The physical and radiographic examinations, so helpful in the recognition of the disease at the summit of the lung, are of secondary importance in basal lesions. Therefore, it is difficult to explain the frequent omission of the sputum examination. The sputum should be examined by the ordinary and the concentration methods and when these are repeatedly negative, animal inoculation should be resorted to.

THE OMAHA 1925 EPIDEMIC OF ACUTE ANTERIOR POLIOMYELITIS*

WITH A REPORT OF THE

PATHOLOGICAL FINDINGS IN FIVE AND A CLINICAL ANALYSIS OF TWENTY-NINE CASES

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There were reported to the Omaha City Health Department in 1925, sixty-nine cases of acute anterior poliomyelitis, with a mortality of nineteen cases, or 27.5%. Most of these cases occurred during the months of September, October and November. In the same period of time, twenty-nine patients suffering with acute poliomyelitis were admitted to the St. Joseph's Creighton Memorial Hospital, and of these there were nine deaths, a mortality of 32.2%. Five of the nine fatalities came to autopsy.

In view of the high mortality rate and rather large number of cases in which the intercostal muscles were involved—in 10 of the 29 patients studied—this epidemic compares in severity and nature to the Philadelphia(1) and New York(2) epidemics of 1916. In the report of the Kansas(3) epidemic of 1923 and that of Detroit(4) in 1924, no mention is made of respiratory complications.

Wickman(5) and Lovett(6) speak of the involvement of the intercostal muscles as a serious complication of poliomyelitis. James Collier(7) states, "Death is uncommon at any stage of the spinal form, except during epidemics when severe general symptoms are followed by widespread paralysis involving all the respiratory muscles". Peabody and Draper(8) hold that "the thoracic portion of the spinal cord, probably owing to its less abundant blood supply, is comparatively rarely attacked, except in the overwhelming infections terminating fatally and conforming to the type of Landry's paralysis".

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*Read in part before Omaha-Douglas County Medical Society, March 9, 1926.

These authorities write very briefly of intercostal paralysis in poliomyelitis and give no estimation of its frequency.

In reviewing the mortality records of various epidemics very little information could be obtained as to the type of cases that died; quite frequently, however, involvement of respiration was given as a complication.

In the Philadelphia epidemic of 1916 reported by Weisenburg and Leopold(9), 716 cases with 168 deaths were studied. "One hundred and one of these deaths were due to a type of Landry's paralysis. In all of 41 deaths from the spinal type, the respiratory system was involved".

A clinical analysis of the twenty-nine cases will be found on charts 1 and 2. Clinical histories and autopsy findings of the five deaths are as follows:

REPORT OF CASES

Case I. Number 533. (Service of Drs. Boler and Kleyla). Polioencephalitic type. J. C. Male, age 25 years. Admitted October 16, 1925; died October 18, 1925.

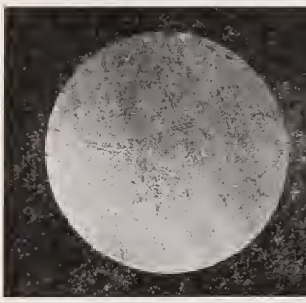


Fig. 3

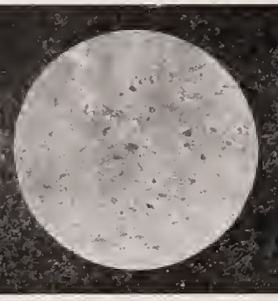


Fig. 2

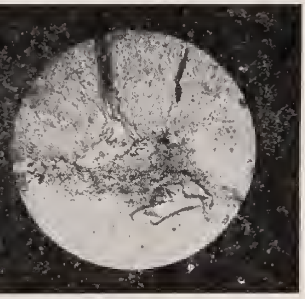


Fig. 1

Figure 1. (Case I. No. 533). Lumbar Cord—Infiltration of the pia-arachnoid, in and opposite the posterior median fissure, and about vessel of white fibre tissue.

Figure 2. (Case I. No. 533). Lumbar Cord—Anterior horn shows almost complete loss of ganglion cells. Only one or two partially degenerated cells remain in horn.

Figure 3. (Case I. No. 533). Thoracic Cord—Showing total loss of cells in the anterior horn.

Chief complaint: Headaches, three days' duration; weakness of the right arm for fifteen hours; difficulty in breathing for twelve hours.

Present illness: On October 14, 1925, had a mild cold, which was accompanied by a very severe headache. The next day he noticed a stiffness of his neck and back; on the following morning he felt a weakness of his right arm, had difficulty in speaking, and was unable to take a deep breath.

Physical examination: On admission to the hospital his temperature was 99, the pulse was 72, and the respirations 40. He was able to swallow, but had difficulty in breathing, and soon after admission his right arm became totally paralyzed and he developed diplopia—the crucifix on the wall seemed double, and he saw two transoms over the door. Later he complained of seeing other objects and persons as double. Sixteen hours before death, he had a total flaccid paralysis of the right arm, a partial paralysis of the left arm, a bilateral paralysis of the intercostal muscles and marked weakness of both legs. The deep reflexes were absent in the right arm and diminished in the left. The knee and ankle reflexes were markedly diminished on both sides, and there was a bilateral Babinski. The abdominal reflexes were equal but exaggerated, and the cremasterics were very active. There was definite rigidity of the neck, accompanied by pain on flexion and pain in the back on extension of the legs. He gradually became weaker, the pulse became rapid, respirations abdominal in type, very slow, shallow and difficult. Shortly before he died his pulse was 168, and the respirations eleven.

Spinal fluid examination: Clear; globulin, trace; cells 19, (polymorphonuclears 7; small lymphocytes 10, and large lymphocytes 2).

Case II. Number 523. (Service of Dr. B. M. Riley). Bulbar type. E. S. Male, age 18 years. Admitted September 19, 1925. Died September 20, 1925.

Present illness: On September 16, 1925, he had difficulty in swallowing while eating his dinner, and in the afternoon he noticed he could not speak distinctly; later he had a severe chill lasting several minutes. That night swallowing became more difficult and liquids would return through his nose.

Physical examination: On admission the temperature was 103, the pulse 100, and the respirations 26. He was nervous and shaky; there was paralysis of the left side of his face and the tongue deviated to the left protrusion. There were no abnormal deep reflexes. Early on the morning following admission his respirations became difficult and weak, and he died a bulbar respiratory death.

Case III. Number 527. (Service of Dr. J. H. Murphy). Spinal type. F. H. Male, age 14 years. Admitted September 30, 1925, and died the same day.

Present illness: On September 27, 1925, he developed a headache with some stiffness of the neck. Later he began to vomit and then gradually lost the power of his legs. On the morning of admission he noticed some difficulty on breathing.

Physical examination: On admission the temperature was 101, the pulse 104, and the respirations 30. There was a paralysis of both legs, with absent knee reflexes; later there was a bilateral paralysis of the intercostal muscles and a paralysis of the left arm. Respirations became extremely difficult and shallow, and he expired on the evening of admission.

Spinal fluid examination: Clear; globulin trace; cells 96 (polymorphonuclear cells 28%, small lymphocytes 22%, large lymphocytes 50%).

Case IV. Number 522. (Service of Drs. F. J. Swoboda and J. H. Murphy). Spinal type. O. H. Male, age 10 months. Admitted September 16, 1925. Died September 17, 1925.

Present illness: Six hours before admission, had a convulsion lasting but a short while. In the convulsion he became very rigid and his back was arched. Since the convulsion the rigidity has persisted. Later the breathing became irregular and shallow.

Physical examination: On admission the temperature was 104, the pulse 112, and the respirations 32. There was marked rigidity of the trunk and all extremities. Ankle and knee reflexes were absent on both sides. There was a bilateral foot-drop. He had intermittent convulsive seizures of the upper extremities. Before death the respirations were extremely rapid.

Spinal fluid lost.

Case V. Number 519. (Service of Dr. M. C. Howard). Spinal type. N. H. Female, age 12 years. Admitted September 4, 1925. Died September 6, 1925.

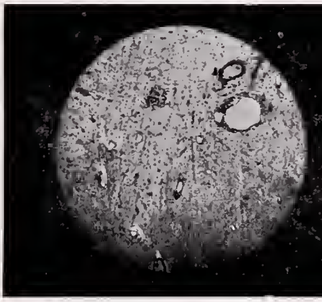


Fig. 4

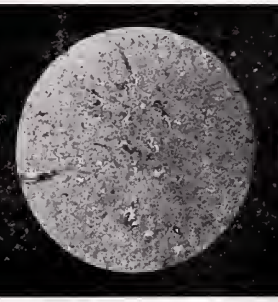


Fig. 5

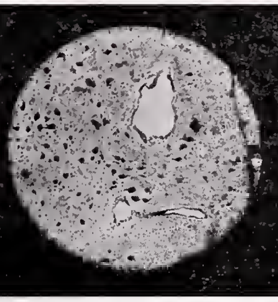


Fig. 6

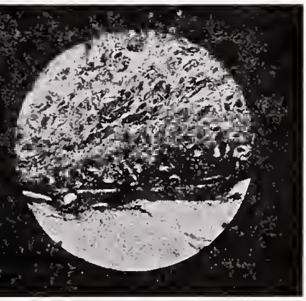


Fig. 7

Figure 4. (Case I. No. 533). Thoracic Cord—Region of Column of Clarke. There is no pericellular infiltration in the column of Clarke, but the vessels in the neighborhood are intensely involved.

Figure 5. (Case I. No. 533). Lower Cervical Cord—The anterior horn cells have disappeared and their sites are marked by collections of mononuclear cells.

Figure 6. (Case I. No. 533). Region of the Third Cranial Nerve Nucleus—Showing some chromatolytic cell changes, very little pericellular exudate, and slight perivascular infiltration.

Figure 7. (Case I. No. 533). Dorsal Root Ganglion—Showing infiltration of the pia-arachnoid, extensive pericellular exudation, and degeneration of the ganglion cells.

Present illness: On September 1, 1925, while at school, she developed a slight headache which gradually became worse. During that night she developed a generalized pain over her abdomen, was nauseated and vomited. On the next morning she was unable to walk or stand, and developed pain in the back of her neck and in her thighs. On the following day all symptoms were increased and she was unable to move her legs.

Physical examination: On admission the temperature was 101, the pulse 116, and the respirations 20. All symptoms rapidly increased, the neck muscles were tender and rigid, and she was unable to raise her head. The muscles of the back and legs were also tender and she was unable to move her legs. The knee reflexes were absent. Large doses of serum were of no avail.

Spinal fluid examination: Clear; globulin trace; cells 151 (polymorphonuclear cells 24%, small lymphocytes 54%, and large lymphocytes 22%).

PATHOLOGICAL OBSERVATIONS

Case I. Number 533. Macroscopic examination: The brain is large, pale, and very edematous; the convolutions are flattened and the sulci are closed. The brain appears to have been compressed against the inner surface of the skull. The pia-arachnoid is congested and over the parietal regions is gray-white.

The whole spinal cord is swollen and edematous, especially in the cervical and lumbar enlargements. The pia-arachnoid over the cord is red from engorged blood vessels.

The dura of the brain and cord is pale.

The vessels at the base of the brain are small; their walls are thin and free from plaques.

Tissues other than nervous—Hyperemia of the lining of the small intestine.

Microscopic examination: Lumbar cord—The pia-arachnoid is thickened around the entire circumference of the cord, most markedly posteriorly. It is infiltrated with small mononuclears, especially so opposite the posterior median fissure, and following this fissure into its depth. (Fig. 1).

In the white matter every blood vessel, large and small, is surrounded by a mass of small mononuclear cells; the infiltrations are most marked around the medium sized and large vessels, and are limited to the Robin-Virchow spaces. (Fig. 1).

The central canal is enlarged and empty, while the ependymal cells are thickened, especially at the lateral margins.

In the anterior horns of the gray matter there is almost complete loss of ganglion cells, only one or two partially degenerated cells remaining in each horn. (Fig. 2).

The remaining ganglion cells are completely filled with small mononuclear cells (neuronophagia). In a few areas the ganglion cells have entirely disappeared, leaving empty spaces. There are less marked destructive changes of the posterior horn cells. The vessels of the gray matter are completely surrounded by small mononuclear cells, which in most places permeate the adjacent tissues.

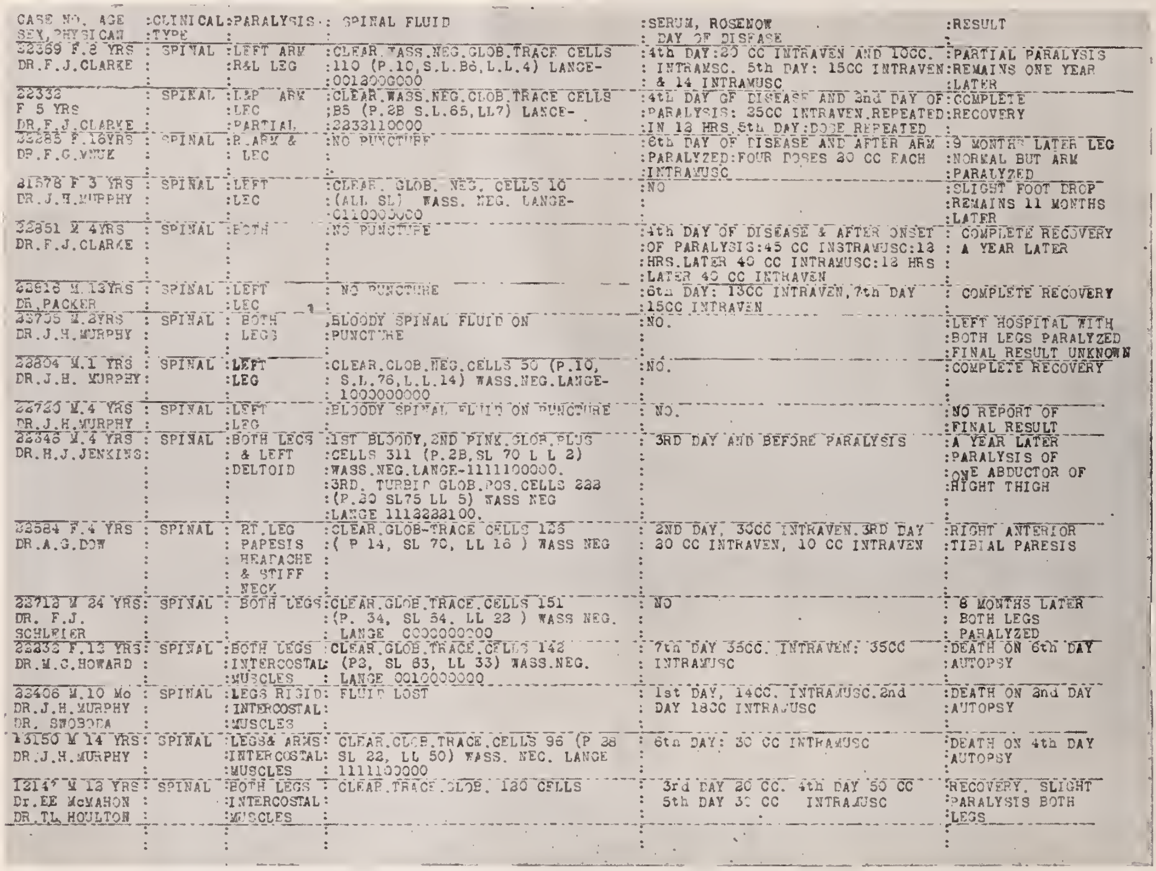
Both the white and gray matter appear edematous, and the anterior median fissure is obliterated by the swelling.

Other sections of the lumbar cord—are similar to the one just described, but contain a few more ganglion cells in the anterior horns.

Lower thoracic cord—The pia-arachnoid is swollen and mildly infiltrated with small mononuclears, most severely, deep in the posterior median fissure. The walls of the blood vessels of the white matter are moderately infiltrated with similar cells, but not as markedly as the vessels in the lumbar region. The central canal is distorted and filled with an acidophilic material and scattered large mononuclear cells.

The gray matter contains no anterior horn cells. (Fig. 3). The parenchymatous or periganglionic cell infiltration is not as marked as in the lumbar region, and does not indicate the former sites of ganglion cells. The process seems of longer duration than in the lumbar sections. The vessels of the gray matter are somewhat infiltrated. There is apparently almost total destruction of posterior horn cells. There is no pericellular infiltration in the column of Clarke, but the vessels of the neighborhood are intensely involved; (Fig. 4) the ganglion cells appear swollen, while in some the nucleus is excentric. In some sections these findings in the column of Clarke are more marked than in others.

Higher thoracic cord—The pia-arachnoid is moderately infiltrated with small mononuclear cells, most



CASE NO. AGE SEX, PHYSICIAN	CLINICAL TYPE	PARALYSIS	SPINAL FLUID	SERUM, ROSENOW DAY OF DISEASE	RESULT
22369 F.2 YRS DR.F.J.CLARKE	SPINAL	LEFT ARM R&L LEG	CLEAR.WASS.NEG.GLOB.TRACE CELLS 110 (P.10,S.L.86,L.L.4) LANGE-0013000000	4th DAY:20 CC INTRAVEN AND 10CC. INTRAMSC. 5th DAY: 15CC INTRAVEN & 14 INTRAMUSC	PARTIAL PARALYSIS REMAINS ONE YEAR LATER
22332 F 5 YRS DR.F.J.CLARKE	SPINAL	L&R ARM LEG PARTIAL	CLEAR.WASS.NEG.GLOB.TRACE CELLS 85 (P.28 S.L.65,LL7) LANGE-2233110000	4th DAY OF DISEASE AND 2nd DAY OF PARALYSIS: 25CC INTRAVEN.REPEATED IN 12 HRS.5th DAY:DOSE REPEATED	COMPLETE RECOVERY
22285 F.16YRS DR.F.G.MUUK	SPINAL	R.ARM & LEG	NO PUNCTURE	6th DAY OF DISEASE AND AFTER ARM PARALYZED:FOUR DOSES 20 CC EACH INTRAMUSC	9 MONTHS LATER LEG NORMAL BUT ARM PARALYZED
21578 F 3 YRS DR.J.H.MURPHY	SPINAL	LEFT LEG	CLEAR. GLOB. NEG. CELLS 16 (ALL SL) WASS. NEG. LANGE-0110000000	NO	SLIGHT FOOT DROP REMAINS 11 MONTHS LATER
22851 M 4YRS DR.F.J.CLARKE	SPINAL	BOTH	NO PUNCTURE	4th DAY OF DISEASE & AFTER ONSET OF PARALYSIS:45 CC INSTRAMUSC:12 HRS.LATER 40 CC INTRAMUSC:12 HRS LATER 40 CC INTRAVEN	COMPLETE RECOVERY A YEAR LATER
22816 M.13YRS DR.PACKER	SPINAL	LEFT LEG	NO PUNCTURE	6th DAY: 13CC INTRAVEN,7th DAY 15CC INTRAVEN	COMPLETE RECOVERY
23705 M.2YRS DR.J.H.MURPHY	SPINAL	BOTH LEGS	BLOODY SPINAL FLUID ON PUNCTURE	NO.	LEFT HOSPITAL WITH BOTH LEGS PARALYZED FINAL RESULT UNKNOWN
22804 M.1 YRS DR.J.H. MURPHY	SPINAL	LEFT LEG	CLEAR.GLOB.NEG.CELLS 50 (P.10, S.L.76,L.L.14) WASS.NEG.LANGE-1000000000	NO.	COMPLETE RECOVERY
22720 M.4 YRS DR.J.H.MURPHY	SPINAL	LEFT LEG	BLOODY SPINAL FLUID ON PUNCTURE	NO.	NO REPORT OF FINAL RESULT
22346 M.4 YRS DR.H.J.JENKINS	SPINAL	BOTH LEGS & LEFT DELTOID	1ST BLOODY,2ND PINK.GLOB.PLUS CELLS 311 (P.28,SL 70 L L 2) WASS.NEG.LANGE-1111100000. 3RD. TURBID GLOB.POS.CELLS 222 (P.20 SL75 LL 5) WASS NEG LANGE 1112222100.	3RD DAY AND BEFORE PARALYSIS	A YEAR LATER PARALYSIS OF ONE ABDUCTOR OF RIGHT THIGH
22584 F.4 YRS DR.A.G.DOW	SPINAL	RT.LEG PARESIS HEADACHE & STIFF NECK	CLEAR.GLOB-TRACE CELLS 126 (P 14, SL 70, LL 16) WASS NEG	2ND DAY, 30CC INTRAVEN.3RD DAY 20 CC INTRAVEN, 10 CC INTRAVEN	RIGHT ANTERIOR TIBIAL PARESIS
23712 M 24 YRS DR. F.J. SCHLEIER	SPINAL	BOTH LEGS	CLEAR.GLOB.TRACE.CELLS 151 (P. 34, SL 54. LL 22) WASS NEG. LANGE 0000000000	NO	8 MONTHS LATER BOTH LEGS PARALYZED
22332 F.12 YRS DR.M.C.HOWARD	SPINAL	BOTH LEGS INTERCOSTAL MUSCLES	CLEAR.GLOB.TRACE.CELLS 142 (P2, SL 63, LL 33) WASS.NEG. LANGE 0010000000	7th DAY 35CC. INTRAVEN: 35CC INTRAMUSC	DEATH ON 6th DAY AUTOPSY
23406 M.10 Mo DR.J.H.MURPHY DR. SWOBODA	SPINAL	LEGS RIGID INTERCOSTAL MUSCLES	FLUID LOST	1st DAY, 14CC. INTRAMUSC.2nd DAY 18CC INTRAMUSC	DEATH ON 2nd DAY AUTOPSY
13150 M 14 YRS DR.J.H.MURPHY	SPINAL	LEGS& ARMS INTERCOSTAL MUSCLES	CLEAR.GLOB.TRACE.CELLS 96 (P 28 SL 22, LL 50) WASS. NEG. LANGE 1111100000	6th DAY: 30 CC INTRAMUSC	DEATH ON 4th DAY AUTOPSY
12147 M 12 YRS Dr.EE McMAHON DR.TL HOULTON	SPINAL	BOTH LEGS INTERCOSTAL MUSCLES	CLEAR.TRACE.GLOB. 120 CELLS	3rd DAY 20 CC. 4th DAY 50 CC 5th DAY 30 CC INTRAMUSC	RECOVERY. SLIGHT PARALYSIS BOTH LEGS

markedly in and opposite the anterior median fissure. On the posterior surface the most marked involvement is in the depth of the median fissure. There is moderate infiltration about all vessels in the white matter. The central canal is occluded by mononuclear cells, larger than those about the blood vessels. The ependyma appears proliferated. In each section examined there remain only a couple of small anterior horn cells, which have the appearance of undergoing atrophy changes rather than acute degeneration. The lateral and posterior horn cells are fairly numerous, but none appear normal in outline. In the anterior horn cell there is no pericellular, but rather a large amount of perivascular, infiltration. The process here seems older than that observed in the lumbar cord.

Lower cervical cord—The pia-arachnoid is swollen, edematous, and markedly infiltrated with small mononuclear cells, most severely in the depths of both the anterior and posterior median fissures. The involvement of the vessels of the white matter is severe, equal to that of the lumbar region. The anterior horn cells have disappeared and their sites are marked by collections of small mononuclear cells. (Fig. 5). Only occasionally a shrunken or elongated ganglion cell can be made out in these sites. The posterior horn cells are fairly well preserved, and lacking in pericellular infiltration. All vessels in the gray matter are enormously infiltrated with mononuclears, the larger vessels containing the larger numbers. There is marked proliferation of the ependymal cells lining the central canal, and the lumen is filled with amorphous faintly staining material.

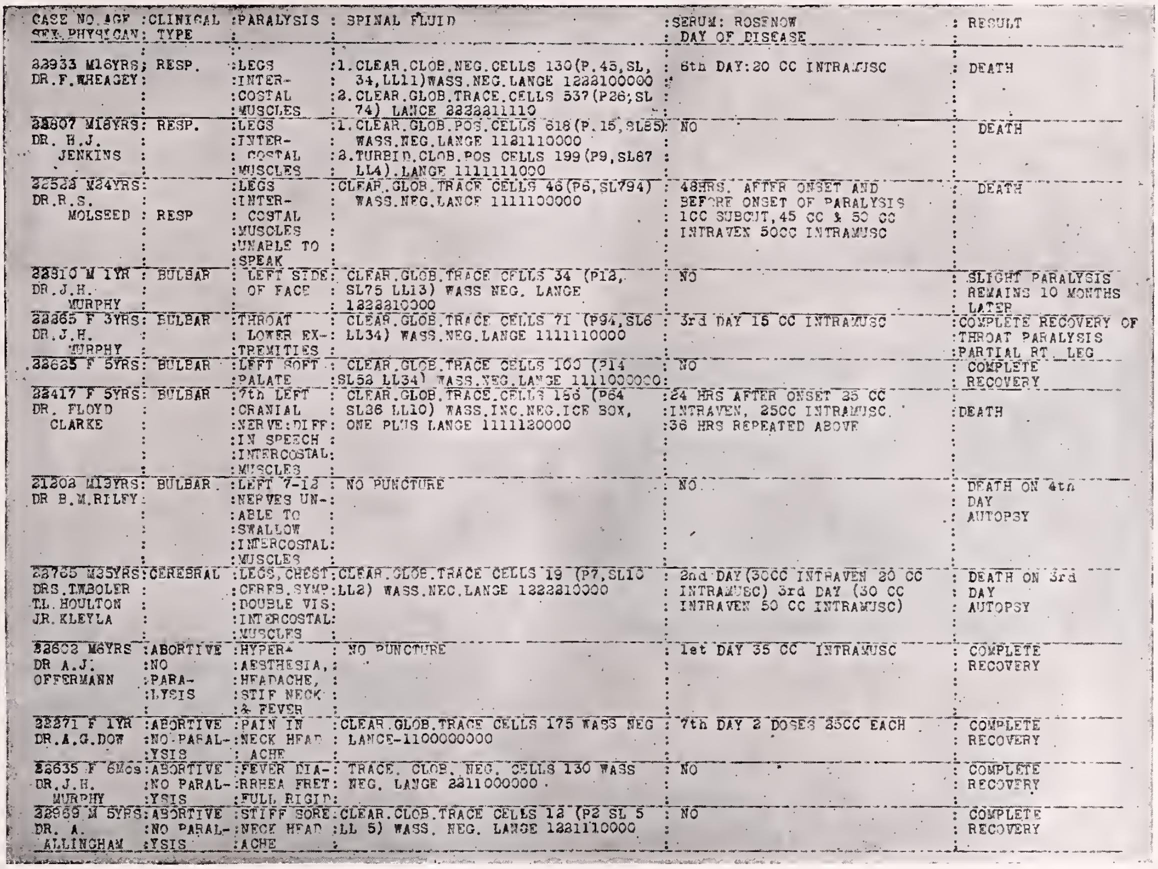
In this section the process seems more acute than in the lower thoracic level.

High cervical cord—The pia-arachnoid is markedly swollen, but only slightly infiltrated, especially in the median fissures, but even there not as severely as in the lumbar region. All vessels of the white matter are moderately infiltrated, and an occasional vessel is seen to be as severely involved as those of the lower cord. With some exceptions the anterior horn cells are well preserved, with distinct nuclei and normal cytoplasm, although most of the cells appear swollen. About several cells in each section there is severe mononuclear infiltration. There is severe involvement of the vessel walls in the anterior horns, as well as in the lateral and posterior portions of the gray matter. Less destruction of the anterior horn cells is seen than in the sections of the lower cord. The lumen of the central canal is dilated; the ependymal cells are proliferated, but not as markedly as elsewhere.

Medulla—The pia-arachnoid is thickened and contains fibrin and small mononuclear cells. The vessels of the entire medulla are densely infiltrated, the larger ones most severely. In the region of the 12th nerve nucleus, the cells for the most part appear normal, but there is extensive involvement of the walls of the vessels. The ependymal cells lining the fourth ventricle stain deeply, but do not appear proliferated. The vessels beneath the lining are markedly infiltrated.

Pons—The pia-arachnoid is markedly swollen, appears thickened, and is rather severely infiltrated with round cells, especially on the ventral surface. Some of the blood vessel walls, especially those near the borders of the pons or near the aqueduct of Sylvius, contain many mononuclear wandering cells. The cells of the third nerve nucleus are swollen, and some chromatolytic changes are present, but there is little pericellular exudate. The vessels in the region of the third nerve nucleus appear enlarged, have thin walls, and in the perivascular lymph spaces are large numbers of small mononuclears. (Fig. 6). The pontine cells are unchanged.

The ependymal cells lining the aqueduct of Sylvius are not proliferated, but there is moderate perivascular infiltration beneath them.



CASE NO. AGE SEX. PHYSICIAN	CLINICAL TYPE	PARALYSIS	SPINAL FLUID	SERUM: ROSENOW DAY OF DISEASE	RESULT
22933 M16YRS; DR. F. WHEAGEY	RESP.	LEGS INTERCOSTAL MUSCLES	1. CLEAR. GLOB. NEG. CELLS 130 (P. 45, SL, 34, LL11) WASS. NEG. LANGE 1222100000 2. CLEAR. GLOB. TRACE. CELLS 537 (P26; SL 74) LANCE 2222211110	6th DAY: 20 CC INTRAMUSC	DEATH
22807 M18YRS: DR. H. J. JENKINS	RESP.	LEGS INTERCOSTAL MUSCLES	1. CLEAR. GLOB. POS. CELLS 618 (P. 15, SL85) WASS. NEG. LANGE 1121110000 2. TURBID. GLOB. POS CELLS 199 (P9, SL87 LL4). LANGE 111111000	NO	DEATH
22528 M24YRS: DR. R. S. MOLSEED	RESP	LEGS INTERCOSTAL MUSCLES UNABLE TO SPEAK	CLEAR. GLOB. TRACE CELLS 46 (P6, SL794) WASS. NEG. LANCE 1111100000	48HRS. AFTER ONSET AND BEFORE ONSET OF PARALYSIS 1CC SUBCUT, 45 CC & 50 CC INTRAVEN 50CC INTRAMUSC	DEATH
22310 M 1YR DR. J. H. MURPHY	BULBAR	LEFT SIDE OF FACE	CLEAR. GLOB. TRACE CELLS 34 (P12, SL75 LL13) WASS NEG. LANGE 1222210000	NO	SLIGHT PARALYSIS REMAINS 10 MONTHS LATER
22365 F 3YRS: DR. J. H. MURPHY	BULBAR	THROAT LOWER EXTREMITIES	CLEAR. GLOB. TRACE CELLS 71 (P94, SL6 LL34) WASS. NEG. LANGE 1111110000	3rd DAY 15 CC INTRAMUSC	COMPLETE RECOVERY OF THROAT PARALYSIS PARTIAL RT. LEG
22625 F 5YRS:	BULBAR	LEFT SOFT PALATE	CLEAR. GLOB. TRACE CELLS 100 (P14 SL52 LL34) WASS. NEG. LANGE 1111000000	NO	COMPLETE RECOVERY
22417 F 5YRS: DR. FLOYD CLARKE	BULBAR	7th LEFT CRANIAL NERVE: DIFF: IN SPEECH INTERCOSTAL MUSCLES	CLEAR. GLOB. TRACE. CELLS 156 (P64 SL26 LL10) WASS. INC. NEG. ICE BOX, ONE PLUS LANGE 1111120000	24 HRS AFTER ONSET 25 CC INTRAVEN, 25CC INTRAMUSC. 36 HRS REPEATED ABOVE	DEATH
21202 M13YRS: DR B. M. RILEY	BULBAR	LEFT 7-12 NERVES UNABLE TO SWALLOW INTERCOSTAL MUSCLES	NO PUNCTURE	NO	DEATH ON 4th DAY AUTOPSY
22765 M35YRS DRS. TWBOLER T.L. HOULTON J.R. KLEYLA	CEREBRAL	LEGS, CHEST CEREB. SYMP: DOUBLE VIS: INTERCOSTAL MUSCLES	CLEAR. GLOB. TRACE CELLS 19 (P7, SL10 LL2) WASS. NEG. LANGE 1222210000	2nd DAY (30CC INTRAVEN 20 CC INTRAMUSC) 3rd DAY (30 CC INTRAVEN 50 CC INTRAMUSC)	DEATH ON 3rd DAY AUTOPSY
22602 M6YRS DR A. J. OFFERMANN	ABORTIVE NO PARALYSIS	HYPERAESTHESIA, HEADACHE, STIF NECK & FEVER	NO PUNCTURE	1st DAY 35 CC INTRAMUSC	COMPLETE RECOVERY
22271 F 1YR DR. A. G. DOW	ABORTIVE NO PARALYSIS	PAIN IN NECK HEAD ACHE	CLEAR. GLOB. TRACE CELLS 175 WASS NEG LANCE-1100000000	7th DAY 2 DOSES 25CC EACH	COMPLETE RECOVERY
22635 F 6Mos DR. J. H. MURPHY	ABORTIVE NO PARALYSIS	FEVER DIARRHEA FRET: FULL RIGID:	TRACE. GLOB. NEG. CELLS 130 WASS NEG. LANGE 2211000000	NO	COMPLETE RECOVERY
22969 M 5YRS: DR. A. ALLINGHAM	ABORTIVE NO PARALYSIS	STIFF SORE NECK HEAD ACHE	CLEAR. GLOB. TRACE CELLS 12 (P2 SL 5 LL 5) WASS. NEG. LANGE 1221110000	NO	COMPLETE RECOVERY

Cerebellum—The pia-arachnoid contains a mild amount of cellular exudate. The cerebellum appears swollen. The Purkinje cells are large, but not degenerated, and there is no pericellular exudate. There is slight infiltration of the walls of some vessels.

Mid-Brain—The pia-arachnoid is swollen and moderately infiltrated with small mononuclear cells. About several large vessels deep in the tissues there are dense collections of small mononuclears; the remaining vessels are only moderately involved. None of the vessels, however, are involved to the extent seen in the lumbar region, and some are not infiltrated. The cells lining the aqueduct of Sylvius are unchanged, and the vessels of the immediate vicinity are not excessively involved. There is only slight swelling of the nigra cells of the substantial nigra, while the vessels in the vicinity are only mildly infiltrated. The changes in the red nucleus are substantially like those of the substantia nigra.

Basal ganglia—Only some slight swelling of the choroid plexus of the lateral ventricles. The ependyma lining the same cavities seems a little elevated and swollen, but the cells are not proliferated. In one area just beneath the ependyma, in the caudate nucleus, there is a focal increase of neuroglia tissue.

Cerebral cortex—There is slight exudation in the pia-arachnoid, and a moderate, but not at all severe, infiltration of some of the vessels of the cortex. In the ganglion cells there are only slight chromatolytic changes and edema.

Spinal ganglion—Intense mononuclear infiltration of the pia-arachnoid, causing the layers to appear extremely thickened. This infiltration is more marked at one pole than over the remainder of the periphery. In the substance of the ganglion there is a general small mononuclear cell increase. This is especially marked in the area opposite the infiltration described in the pia-arachnoid; in this area there is an extensive intra and pericellular infiltration. Some of the ganglion cells have entirely degenerated. (Fig. 7).

Case II. Number 523. Macroscopic examination: The brain is large, pale, and very edematous. The convolutions are for the most part flattened, with the sulci closed. The pia-arachnoid is gray-white over the entire brain, milky white in the Sylvian fissures and in the interpeduncular space. On the surfaces made by cutting the brain there is bulging of the basal ganglion structures, and intense edema of all tissues. The blood vessels at the base are large and free from any evidence of arteriosclerosis. The dura of the brain is unchanged. The cord is reddened from congested blood vessels, most marked in the cervical region.

Tissues other than nervous:

Thyroid is uniformly enlarged, and on section contains an increased amount of colloid.

The spleen is slightly enlarged. On section it is purple, and both pulp and Malpighian bodies are prominent.

Left lung is increased in weight; lower lobe is reddened and irregularly consolidated, very wet and bloody, and on section contains some dark red resistant regions. Lower lobe of right lung contains similarly consolidated regions.

Microscopic examination: Lumbar cord—There is very mild small mononuclear infiltration of pia-arachnoid, not increased in the depths of either the anterior or posterior median fissure. In the white matter there is moderate small mononuclear infiltration, for the most part limited to the adventitia of the blood vessels. In the posterior roots, just within the cord, there is severe infiltration of the vessels, while all vessels of the anterior horns are moderately affected. The ganglion cells in the anterior horn are normal in number; some are swollen and have excentric nuclei, but there is no pericellular infiltration. There is no neuronophagia of the posterior horn cells. Small mononuclears occlude the lumen of the central canal.

Lower thoracic cord—Is not as severely involved as the lumbar cord, and the anterior horn cells appear normal.

Upper thoracic cord—The mononuclear cell infiltration of the pia-arachnoid is severe, opposite and in the posterior median fissure. There are varying degrees of infiltration of the blood vessels of the white matter. An occasional anterior horn cell appears enlarged, but none have dropped out. The posterior horn cells and those of the column of Clarke are unchanged. Contrasted with the silght changes of the cells in the gray matter, is the infiltration of practically all the blood vessels with small mononuclear cells. The lumen of the central canal is occluded with small mononuclear cells

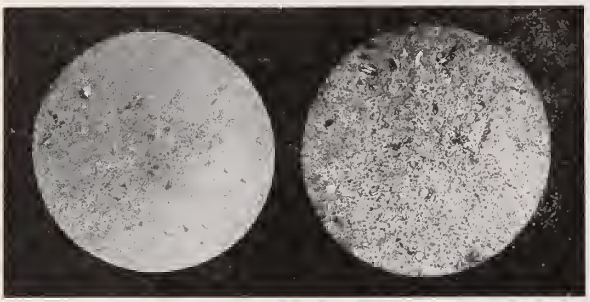


Fig. 9 Fig. 8

Figure 8. (Case II. No. 523). Low Cervical Cord—Showing complete destruction of the anterior horn cells.

Figure 9. (Case II. No. 523). High Cervical Cord—Showing total degeneration of anterior horn cells.

Lower cervical cord—The pia-arachnoid is swollen and thickened, containing large numbers of small mononuclears, most numerous about the blood vessels. This condition is more marked than in the lower portion of the cord, but not as severe as in the pia-arachnoid of autopsy No. 533. The infiltration is less severe on the surface of the cord than in the fissures. The vessels of the white matter are markedly infiltrated. There are only one or two ganglion cells remaining in the anterior, lateral and posterior horns; the others have disappeared. The round cell infiltration in the anterior horns is quite diffuse and scattered. (Fig. 8). The blood vessel walls are infiltrated, but not as markedly as elsewhere. The central canal lumen is patent and the ependymal cells unchanged.

High cervical cord—The pia-arachnoid is like that of the lower cervical region. There is marked infiltration of the vessels of the white matter, and there are marked degenerative changes of the anterior horn cells, but not as severe as in the lower cervical cord. Several cells have disappeared and their sites are marked by collections of round cells; there are various stages of neuronophagia and phagocytic changes. (Fig. 9). The blood vessels of the gray matter are severely involved, but in general the findings are not as marked as in the lower cervical region. The lumen of the central canal is empty. The process seems to be of longer duration than in the lower cervical region.

Lower medulla—In the pia-arachnoid there is severe infiltration of all vessels, but the process is not limited to the adventitial spaces. In the substance of the medulla the condition is even more marked in the vessel walls, to which it is more limited. In the nucleus of the 12th cranial nerve there is much damage to the cells, where there is swelling, distortion, absence of nuclei or neuronophagia with four or five round cells in the cytoplasm. There is also some inflammatory involvement of the vessels of the same region. There are mononuclear cell collections in the ependyma, in the margins of the 4th ventricle, and slight inflammatory collections are present in the choroid plexus.

High medulla—The reaction is even more severe in both pia-arachnoid and substance of the medulla, than in the lower medulla. There are enormous numbers of mononuclears in the walls of the blood vessels just below the 4th ventricle. There is proliferation of the ependyma lining the 4th ventricle.

Midbrain—No degenerative changes, pericellular collections, or even moderate neuronophagia of the cells of the substantia nigra. There is moderate infiltration of most vessel walls, limited to the adventitial spaces. The ependyma lining the aqueduct of Sylvius is unchanged, as are the vessels just below the floor of the ventricles.

Cerebellum—About a few vessels there is slight perivascular infiltration.

Cortex—There is a mild exudative change in the pia-arachnoid, most marked in the fissures. There is moderate infiltration of all blood vessels of the cortical layers and the white matter. The neuroglia cells appear increased. The evidence of neuronophagia is fairly well marked, but not nearly to the degree seen in the cord.

Basal ganglia—The ependyma lining the lateral ventricles, the vessels just beneath it, and those of the choroid plexus, are unchanged. There is mild infiltration of the adventitial spaces of some vessels of the caudate nucleus, globus pallidus and lenticular nuclei.

Dura of cord—There is mild infiltration of the vessel walls.

Case III. Number 527. Macroscopic examination—Spinal cord—The dura is hyperemic. The entire cord is swollen, especially in the lumbar region, and is pale on cross sections. The gray portion of the cord bulges and appears hyperaemic. The spleen is slightly enlarged. The solitary and agminated follicles of the small intestines are prominent. The mesenteric lymph nodes are enlarged and from one to two cm. in diameter.

Microscopic examination—Dorsal root ganglion—In the pia-arachnoid covering the dorsal root ganglion there is moderately severe small mononuclear cell infiltration; in places, especially on the dorsum, there are focal cell collections in the perineurium of the entering nerves. Throughout the ganglion there are focal collections of small mononuclear cells, in some places about vessels, elsewhere about nerve cells. Along the dorsal marginal surface the most marked infiltration is noted. The changes in this ganglion are similar to those in case Number 533, but not as severe. (Picture No. 8).

Cord dura—The dura is swollen and all vessels moderately infiltrated.

Lumbar cord—In the pia-arachnoid are enormous numbers of small mononuclear cells around the blood vessels; the collections are excessive in the median fissures, and quite marked where the pia-arachnoid extends into the cord on the lateral surface. The infiltration is as severe as that in the lumbar sections of case Number 533. All vessels of the white matter have an excessive amount of perivascular infiltration which is, however, fairly well limited to the adventitial spaces. In the fibres extending from the posterior root are large numbers of mononuclear cells.

both within the spinal cord and along the nerve sheaths outside of it. In all sections of the lumbar region there is a complete absence of anterior horn cells; a few lateral and a few posterior horn cells are present. In some sections the former site of a ganglion cell is marked by a group of small mononuclear cells; in other sections there is a generalized, even distribution of invading cells throughout the entire gray matter; about the blood vessels, however, there are dense collections of mononuclear cells not limited to the adventitial spaces. In striking contrast to the degeneration of the anterior horn cells, there is no marked change of the column of Clarke, except for some granulation of the cytoplasm in a few cells; about the blood vessels in the same area there is not as marked exudation as elsewhere.

The lumen of the central canal appears enlarged and is free from debris; the ependyma, however, is moderately thickened.

Thoracic cord—The pia-arachnoid is moderately infiltrated, most intensely deep in the fissures. The vessels of the white matter all have intense perivascular collections, in not all areas limited to the adventitial spaces. In the gray matter there is a total loss of cells in the anterior, lateral, and posterior horns. In some sections a few cells of the column of Clarke are preserved. The whole gray matter is diffusely infiltrated with small mononuclear cells; the only gatherings noted are about the blood vessels. Because of the absence of anterior horn cells the process seems to be of longer duration than in the lumbar region.

Cervical Cord—In the pia-arachnoid there is less infiltration than in the thoracic region. The blood vessels of the white matter are not as severely involved as in the thoracic region. In the gray matter there is an almost total loss of cells in the anterior, lateral and posterior horns; mononuclear infiltration here is general, but not nearly as severe as in the thoracic regions.

The lumen of the central canal is patent and the ependyma does not appear proliferated.

Case IV. Number 522.

Macroscopic examination—The spinal cord is swollen in the cervical region, and on cross section bulges. The entire cord is pinker than normal.

Other tissues—The mesenteric lymph glands are moderately enlarged.

Microscopic examination—Lumbar cord—The pia-arachnoid especially opposite the anterior median fissure, is quite severely infiltrated with small mononuclear cells. The circumference of the cord is mildly infiltrated with exudate, but nowhere as markedly as in the case Number 533. Some blood vessels of the white matter are very mildly involved. The anterior, lateral and posterior horn cells are invaded by small mononuclear cells. There is severe phagocytosis of a few cells, and most cells, although present, show acute degeneration. The cytoplasm of practically every cell is broken up into granules; the nucleus is excentric and in many instances has disappeared. There is more infiltration of the blood vessels of the anterior horn than in the white matter. The lumen of the central canal is patent, and the ependymal cells seem enlarged but not proliferated.

Thoracic cord—The pia-arachnoid is as severely infiltrated as in the lumbar section. The blood vessels of the white matter are very mildly involved. The blood vessels of the anterior horn are slightly more infiltrated than in the white matter, and not as severely as in the pia. In the anterior, lateral and posterior horn cells are marked evidences of early acute degeneration. There is no evidence of pericellular exudation. In the cells of the column of Clarke there are less degenerative changes than in other regions.

Cervical cord—In the pia-arachnoid there is more infiltration than in the lower sections of the cord. There is moderate infiltration deep in all the fissures. The vessels of the white matter are more severely infiltrated, than those lower in the cord.

Case V. Number 519. Autopsy permit limited to removal of a small section of the lumbar portion of the cord.

Macroscopic examination. Section of the lumbar cord, one inch long, swollen and edematous. The gray matter is congested, and on the cut surface bulges beyond the white matter.

Microscopic examination—The pia-arachnoid is moderately infiltrated with round cells, the larger numbers being collected in the fissures, especially the posterior median. About all the vessels of the white matter are large cellular infiltrations, for the most part limited to the adventitial lymph spaces. About the anterior horn cells, although all are present, there are collections of small mononuclears; the ganglion cells are undergoing phagocytosis and some are practically destroyed, but none appear to have completely dropped out. The whole section gives the impression of an acute degenerative process.

SUMMARY

The pathological changes in the central nervous system in all five cases were quite severe and extensive. All five cases had paralysis of the intercostal muscles, and with the possible exception of case V, where only limited postmortem examination was permitted, there was extensive pathological involvement of the anterior horn cells of the thoracic portion of the spinal cord.

Although the pathology was rather general throughout the central nervous system it corresponded in severity with the clinical symptoms in each case.

We are indebted to the various clinicians whose names are mentioned in Charts I and II, for the privilege of reporting these cases.

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OBSERVATIONS ON GALLBLADDER SURGERY*

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Lincoln, Nebraska.

The surgical treatment of the gallbladder is still an unsettled problem, modern surgical teachers to the contrary notwithstanding. They seem to have settled the problem to their own satisfaction at least by teaching that every diseased gallbladder should be treated by excision. I wish to take issue with this teaching. I am old fashioned enough to subscribe to the teaching that the patient should be treated and not the disease. From this standpoint the question of the patient's physical condition must be reckoned with before applying treatment to a diseased organ. In order to determine the method of procedure, clinical judgment must be depended on in each individual case. For instance, a patient with acute empyema of the gallbladder with a high fever, who has been sick for probably a week, should not be treated in the same way as a case with recurrent attacks of gallstone colic. In one case the indicated operation may be a life saving measure, in the other case an operation is done to relieve symptoms. The surgeon who treats an acute empyema of the gallbladder by cholecystectomy as a routine measure is bound to have a high mortality.

We must learn to differentiate the types of diseased gallbladders which we have to treat, and, the modern teaching of the treatment of diseased gallbladders by cholecystectomy is, in my opinion, most pernicious.

I was an early advocate of the method of cholecystectomy because it was a simpler operation to perform than cholecystostomy, and the results seemed fairly satisfactory. However, the results were not always satisfactory. Occasionally a patient with an acute empyema of the gallbladder upon whom I had done a cholecystectomy would not respond to my surgical treatment. I learned by sad experience that cholecystectomy, at least in my hands, was not the operation to be done in acute pus infections of the gallbladder and I discontinued it long years ago. In that type of case I changed to draining the gallbladder. Ten or twelve years ago I acquired the art of draining the gallbladder with a local anesthetic. By this method my results have been most gratifying. A disease that formerly carried a high mortality from doing a cholecystectomy under general anesthesia, is now classed as little more than a minor affliction by operating under local anesthesia and drainage. I can heartily recommend this method of treating empyema of the gallbladder. My clinical experience taught me that cholecystectomy as a routine measure in acute suppurative diseases of the gallbladder was not a safe operation for the patient.

In chronic diseases of the gallbladder cholecystectomy is a simple and comparatively safe operation and should carry no immediate surgical mortality. However, on reoperating on patients upon whom I had done a cholecystectomy for some condition not associated with the biliary tract, I frequently found a marked disturbance of the anatomical relations of the organs under the liver. Frequently there would be found a mass of adhesions, although many of the patients did not complain of symptoms referable to the stomach. My first impression was that the cause of these adhesions was due to faulty technique. However, twelve or fourteen years ago I operated on a patient for an acute obstruction of the common duct. She had been operated on by a surgeon of world wide reputation and had her gallbladder with gallstones removed a year before. On opening the abdomen I found the stomach adherent to the abdominal wall and the liver. Fortunately the pylorus was free and she did not have stomach symptoms. After separating adhesions, omentum, colon, stomach, and liver, I was able to extract the stone from the duct. The patient made a good recovery. Here was a patient operated by a surgeon of international reputation whose technique could not be surpassed. In her case there was a nasty mess of adhesions.

My suspicion that cholecystectomy even in chronic gallbladder was not an operation to be proud of was confirmed a few years later. I picked up another case that was operated on at a famous clinic by a famous surgeon. The patient was a young man thirty years old, who had had his gallbladder and appendix removed. In the course of a few months he had an obstruction of the pyloric end of the stomach almost complete. On operation the pyloric end of the stomach was adherent to the under surface of the liver in the gallbladder fossa for several inches. The stomach was separated and freed, the omentum was brought up and tacked on to the liver to prevent the stomach and liver from becoming adherent again. The result was fairly satisfactory.

On the day I received an invitation for this meeting I operated on a patient for obstruction at the pyloric end of the stomach. This patient had been operated on for gallstones five months ago. His gallbladder was removed. It contained a number of stones. He made a good operative recovery and was home in a couple of weeks. However, he began complaining of stomach symptoms, which gradually increased in severity and he was compelled to seek relief. Before his gallbladder was removed, he suffered from attacks of gallstone colic, but was able to continue with his work as a railroad engineer. The gallbladder operation was done by one of the leading surgeons of the middle west. An x-ray examination showed a stomach as large as a football with practically complete obstruction at the pylorus. At operation the stomach was found adherent under the liver in a mass of adhesions that I felt inadvisable to separate. I performed a posterior gastro-enterostomy and the patient made an excellent recovery, leaving the hospital in ten days, and eating a liberal diet without any distress.

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*Read before American College of Surgeons, Sioux City, Ia., Nov. 15, 1927.

I selected these three cases because each case had been operated on by a master surgeon. Each one had the gallbladder removed. The first case was fortunate in not having the pylorus bound down by adhesions to cause obstruction. The other two were incapacitated by symptoms directly resulting from the stomach becoming adherent in the space laid bare by cholecystectomy. The result, in my opinion, was due to an operation which I feel personally should be discarded. Gastro-enterostomy as a late sequel to cholecystectomy is a considerable price to pay for having a standardized operation performed on the gallbladder.

Stomach symptoms of varying degrees due to adhesions following cholecystectomy is not unusual. Whether the adhesions following cholecystectomy are due to trophic changes in the peritoneum and fascia due to cutting intercostal nerves in the vertical incision, or whether they are due to the raw surface of the liver where the gallbladder has been removed inviting them, I do not know. That it is a frequent sequel to cholecystectomy must be admitted.

My own experience in gallbladder surgery compelled me to discard cholecystectomy as a routine procedure many years ago. Now there are other sequels or complications as cutting the common duct. I have encountered that sequel a number of times. Occasionally the duodenum is injured in cholecystectomy with a resulting fistula. Any surgeon who attempts to anastomose the common duct after the operation will have a very interesting experience. It is not so very common for stones to be left in the common duct, or they form in the biliary ducts after the gallbladder has been removed.

Personally I feel that the operation of cholecystectomy was devised by a versatile surgeon, who diagnosed gallstones before operation. Not finding stones, he labelled the trouble, infected gallbladder and removed it. It was simple. He had an exhibit to show the patient's friends. Everybody was satisfied. Its simplicity of performance started it on its way, and it is hard to stop. However I do not think there are so many gallbladders without stones being removed since we have been using the dye to diagnose condition of gallbladders. If no stones are shown and unless great distortion of gallbladder, operation is not recommended.

HEALTH EXAMINATIONS*

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The physician, since the world was young, has been trained to think in terms of disease and its eradication from the human race, he has been taught to focus his attack on that part of the individual in which the pathology is exhibited. As a result, the doctor has developed great skill in the treatment of the diseased human, practically all parts of the body are now accessible to the surgeon's knife, pathological structures are removed and many lives prolonged. Serum therapy has saved the race thousands of fatalities by counteracting the toxins of active disease. Many other agencies have come into being which are serving their purpose in destroying active pathology, as well as assisting the organism to right itself from the devastating action of disease. Skill in diagnosis has made a tremendous growth until now, where conscientious cooperation is utilized, the exploratory operation is the exception rather than the rule.

During this time a force, or an idea, has been generating so quietly that it now permeates the whole structure of medicine. I refer to preventive medicine or the idea of treating the individual, the family and the nation before they are actively sick by rendering them immune to contagion and building up their resistance by intelligent living and proper hygienic surroundings. When we turn our eyes away from the brilliancy of the active attack and accommodate them to the light of impartial analysis and take into consideration the results of vaccination against smallpox, the inoculation against the various contagious diseases, the eradication of typhoid and yellow fever, the reduction in the death rate from the various respiratory diseases, the part played by the treatment of active disease becomes small in comparison with that obtained from the agencies engaged in preventive medicine.

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*Read before the Republican Valley and Tenth Councilor District Medical Society, Hastings, Oct. 27, 1927.

In the United States registration area the life expectancy has been increased from forty-nine and twenty-four hundredths years in 1901, to fifty-seven and thirty-two hundredths years in 1926. The death rate from tuberculosis alone, has been reduced from one hundred eighty and five-tenths in 1900 to eighty and two-tenths in 1924. That is according to the last available data, seventy-five thousand people are dying from this disease annually.

But in spite of this apparently brilliant record the medical profession is today called upon to face the fact that thirty-three people out of every one hundred who die in the United States die from a preventable cause. This fact is humiliating enough, but when the number of people who are sick from preventable causes are computed and the economic loss estimated, the figures foot up a staggering arraignment on the wrong side of the ledger in which the achievements of the medical profession is recorded.

Health should be looked upon as the greatest and most valuable possession in the economy of the nation. To secure the proper perspective health should be looked upon as a positive element or factor, not the mere absence of active pathology. Several of the great life insurance companies, as well as industrial corporations, recognizing the economic value of health, have put into practice the scheme of treating the man before he is sick. They have definitely demonstrated the fact that it is a financial success. The individual is not only more efficient but his life period of efficiency has been increased by many years.

The American Medical Association, recognizing the tremendous value of the health movement, received a resolution in the conference of secretaries in 1922. The resolution embodied the need and demand for periodic health examinations and created a framework toward working out the plan by all its branches. This was adopted in June 1924.

The county society is recognized as the unit in the plan, the carrying out of which, rests largely on the shoulders of those engaged in general practice, who by the nature of their work, their confidential, friendly and influential relation with the family, render them effective in promoting the plan to their community.

It has been suggested that the members form themselves into study clubs for the purpose of becoming more efficient and thorough in making the health survey, as well as working out a standardized plan of educating their clientele. With this idea in mind, the national committee have compiled a manual of suggestions covering the main points for making the examination. These suggestions have been well received as there are more than sixty thousand now in use. The King's County Society in New York has also compiled a manual which goes into detail to a greater extent than does the A. M. A. manual. Both of these manuals are available and it is urgently advised that the physicians who may not happen to have them will put in an order with their secretary for them. The A. M. A. have also formulated a blank for the purpose of assisting in making the health examination uniform.

As to the ways and means of starting the movement in the counties, several plans have been suggested and tried. In a recent letter from Dr. John M. Dodson, secretary of the national society, he suggests from his experience the best method of approach which I would like to transmit to you at this time, in part. He says: "At one of the meetings of the county society the members should be asked to volunteer as subjects for a periodic health examination and to ask their wives and possibly one or two of their older children, to also submit to the health examination. Competent members of the society should be appointed to make these examinations at a time convenient to both parties and their reports carefully entered on the usual blank should be turned over to the secretary or a committee appointed for that purpose in order that they may summarize the findings as to the physical defects or noteworthy defects of habit. These should be tabulated so that a statement can be made, for example, in say twenty-five physicians—number of wives—number of children—who have been submitted to an examination, the following defects have been found: The teeth and condition, the tonsils, adenoids, vision, etc. This tabulation should be presented at the next meeting of the society without revealing the names of those examined. A representative of a local newspaper should be present at this meeting, for it is the finest kind of publicity material for the local press. They will be glad to print it and play it up and their readers cannot escape the conclusion, that if there is such a percentage of defects among the doctors and their families it is pretty certain that a similar condition exists among the non-medical portion of the community.

When this publicity has been accomplished the time is ripe to tip off to a lay organization such as a Rotary Club, Lions, Kiwanis, Woman's Club, Y. M. C. A., Association of Commerce, or whatever organization is most influential in the community, that this would be a splendid topic for one or two talks by physicians competent to speak on the subject, either local men or somebody imported from the outside.

The report of these talks, if adequately publsihed, is quite certain to stir up a good many of the citizens to the importance of this activity and to bring them to the physician's office for examination.

The vitally important thing is that the doctors should be ready to give a reasonable, thorough, careful and worth while examination when the clients call for it. By this procedure the demand for these examinations is brought about by the activity, not of the doctors themselves, but of lay organizations, and the implication that the doctors are promoting the movement for their own aggrandizement, is in large part, avoided.

It has been found by those who have had considerable experience along this line, that a good physical examination—a review of the family history and personal record—a summary of the findings and a recording of the advice to be given to the patient, can be accompished in from forty to forty-five minutes in the average case.

No fee has been set by the American Medical Association for this examination. It is thought that this should be left either to the examiner or to the local medical society. It is perfectly obvious that it must be adjusted to the economic condition prevailing in each particular community. If the fee charged is too high people will not seek this service, if it is too low to enable the doctors to give the time necessary to make a reasonably thorough examination, the clients will soon discover that they are not getting value received and the movement will fail.

The advice given to the health client should be recorded on a separate sheet, preferably the doctor's letter head and a carbon copy should be kept for filing with the report of the examination. This report should also set forth a summary of the physical defects or errors of habit which are found.

A definite date should be set for the return of the client for examination—usually at an interval of a year. Notes should be made of the fact in the doctor's calendar and he should see that the patient is reminded of this appointment in due season.

Advantage should be taken of the opportunity afforded by the presence of the health client to inquire about other members of his family. This is the time for the family doctor and health advisor to impress the importance of prenatal care of the prospective mother by her examination at intervals during the period of pregnancy, of the value of post-natal care and the examination of the infant at monthly intervals and advice to the mother as to its care, of the fact that vaccination against smallpox should be done within the first six months of birth, that inoculation against diphtheria should be done in the early years of the child, that the pre-school children should be examined with care just previous to entering school for the first time.

In brief, the periodic health examination should be made the fundamental subject in establishing a relation between the examiner and the health client, as the family health advisor".

I have abstracted largely from this letter in order to present to you the concrete thought of those who are in position to know the problem surrounding this great movement.

At this time when focal infection is recognized as a prominent factor of much systemic pathology and that infected teeth are the source of a considerable part of focal infection, it would seem advantageous that a closer relationship with the dental profession should be secured. While it is true that the dentists are far ahead of us in educating the people to the periodical examination of their teeth, the physician will find many of his clients who are not observing this necessary procedure. It would seem that some reciprocal arrangement could be secured toward the interchange of reports or information between the two professions.

In conclusion let us view some of the benefits to the physician in connection with this plan.

The health examination introduces a change in the point of view of both physician and public and promises to result in a constructive advance which will be advantageous to both. It strikes at the roots of cultism and the patient medicine interests, both of which base their claims on an illusive cure without consideration of prevention.

That the examination should be thorough is self evident, as no physician would care to give a signed conclusion of an individual's present condition otherwise. It naturally follows that an adequate fee should be charged for services rendered, that the fee should be paid in cash would not be an objectionable requirement. It might be advantageous to have a somewhat reduced fee for subsequent examinations.

The value of a record-file of the normal or walking condition of a physician's clientele cannot be estimated: It would offer very valuable information in case of later acute or chronic illness that could not be secured in any other way, the patient's knowledge that his physician had in his possession a detailed record of his or her normal condition to compare with the sick condition would not hurt the physician's position in their estimation.

The objection has been advanced that the unscrupulous and mercenary physician or surgeon would make the best of this opportunity to exploit their traffic. It is a noteworthy fact that these gentlemen thrive best on secrecy and ignorance, a signed statement in the possession of the client does not favor secrecy nor does it imply ignorance, it would appear that the tendency would be toward reforming bad men and making good men better.

In all lines of endeavor the slogan, "Better Service", has paid in an improvement of the morale as well as the financial returns. That the adoption of this slogan by the medical profession in the way of reducing the number of preventable deaths and unnecessary sickness, and the increasing of the individual's efficiency by teaching him how to live better with himself, his family and the community will also return a result that will amply compensate it for the effort, is assured.

BLOOD TRANSFUSIONS*

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Blood transfusions in a small hospital or isolated farm house differs in no way from a transfusion given in the most elaborately equipped metropolitan hospital. Fortunately, this procedure presents no unsurmountable barriers, so that it may be made as available to the former as the latter.

Early in medical history transfusions have been mentioned. It has been heralded by the Egyptians as a rejuvinating method to ward off old age; i. e., a fountain of youth. But when it failed to restore Pope Innocent VIII in 1492, it was discredited. It was even mentioned as a means of reforming immoral persons, by transfusing with the blood of the pious. Harvey's discovery of circulation (1628) again aroused interest. Henshaw, 1666, did first recorded transfusion in animals. Jean Denis, a Frenchman, 1667, performed, first authentic successful transfusion in man, conserving both doner and recipient. Later, unsuccessful attempts caused the procedure to be banned by a court edict. During practically the whole 18th century, no mention is made of transfusion. Blundell, 1818, on seeing a fatal case of uterine hemorrhage was stimulated to resurrect the use of this operation. Much work was done on animals. Brown-Sequard and others made contributions. They worked with defibrinated blood, and interchanged the blood of many species. Up to 1870 only four transfusions were recorded in the United States. During the last quarter of the 19th century considerable interest was shown, but not much progress made. Animal blood, chiefly sheep, was still used. The first decade of this century was a period of disfavor for transfusions. However it was during this period that Landsteiner (1900-1) by identifying blood groups laid the ground work for our present methods of selecting donors, thereby changing it from a haphazard, hazardous method to a useful and safe one. Jansky, 1907, identified the four groups now universally accepted. Moss, 1910, independently described four groups. His Groups I and IV are interchanged with Jansky's. Their groups II and III are the same. This has caused great confusion.

The principle of blood grouping is based on the presence of an iso-agglutinogen in the cells and an agglutinin in the serum. A new classification based on the iso-agglutinogen content of the cells has been proposed by Laudsteiner. In the "O" groups cells are not agglutinated by any serum; A group cells are agglutinated by O and B sera. B group cells are agglutinated by O and A sera. AB group cells agglutinated by O, A and B sera.

TABLE I

Jansky Grouping	per cent	Moss Grouping	per cent	Agglutinable Substances In Cells
I	37.5	IV	43	O ("universal donor")
II	37.5	II	40	A
III	18.7	III	7	B
IV	6.3	I	10	AB

"From the interaction of groups it can be seen that many of the earlier fatalities were due to agglutination of erythrocytes. Later studies show that there are some bloods which do not fall within the four fixed groups. There are some agglutinins which are active only at a lower temperature ("cold agglutinins") and also a number of other abberant agglutinins usually classified as psuedo-agglutinins. Therefore, direct matching of blood immediately before transfusion is a necessary precaution, to avoid changing a useful therapeutic procedure, employed as a life saving measure to effect the opposite result. Usually matching the donors cells with recipients serum is sufficient as the latter is so diluted that its agglutinating power on recipients cells can be disregarded. However, having both sera and cells of both recipient and donor, match is very desirable. By this method of cross matching, grouping is not necessary. But the added safety of knowing both belong to some group is a factor worth while. Blood grouping has the further advantage that donors, who are reasonably certain to match, may be held readily available.

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*Read before Surgical Association of the Rock Island Lines. Omaha, Nebr., Dec. 7, 1927.

Some authorities claim infants blood does not contain agglutinins, therefore, it is always safe to use a mother as a donor. The observation of others does not substantiate this. For the present, as there is difference of opinion, matching would be desirable in transfusing infants.

Isohemolysins are present only with agglutinins according to all authorities except Kolmer. Hemolysis usually produces no serious consequences except hemo-globinuria. Hemolysis cannot be seen by microscopic method of matching but must be demonstrated macroscopically.

The length of life of transfused corpuscle is variously estimated by different workers from 1 to 100 days. But many estimate it from 20 to 30 days.

Technic of Blood Grouping: For the usual procedure it is necessary to have available, group II and III sera. A drop of each serum is placed on opposite ends of a slide and mixed with a drop of cell emulsion and the reactions noted.

TABLE II.—SCHEME OF THE JANSKY
Classification of Blood Groups.

Group	Effect of Serum.	Capacity of Cells.
1	Agglutinates cells of 2, 3, 4.	Not agglutinated by any serum.
2	Agglutinates cells of 3 and 4.	Agglutinated by serum of 1, 3.
3	Agglutinates cells of 2 and 4.	Agglutinated by serum of 1, 2.
4	Does not agglutinate any cells.	Agglutinated by serum of 1, 2, 3.

It is well to work with a uniform cell emulsion. One drop of blood to 3 cc. of normal saline makes an emulsion of proper consistency. If cells are to be kept more than a few hours before grouping it is best to add 1% citrate and cells washed before using. Test serum will retain its agglutinating power for several months if kept sterile. Direct matching is carried out in the same way as for grouping. Blood groups are considered fairly definitely fixed for life. Some observers claim variations, being influenced by transfusion, ether narcosis, x-ray irradiation, etc.

Vogel has shown that blood groups may be identified with only one known group available. The advantage of this method is very obvious, as even in a large center, it is at times difficult to have persons available and willing to furnish blood for typing sera. By using blood from only group II, which includes 40% of all people, this obstacle is markedly lessened. Under certain circumstances, group III might be more avail- test belongs to this group. Needless to say this could be used equally as well as group II blood. able, when for example, the person doing the

TABLE III

	(Group II serum and unknown cells).	(Unknown serum and group II cells).
Group I (Moss)	Agglutination.	No Agglutination.
Group II	No Agglutination.	No Agglutination.
Group III	Agglutination.	Agglutination.
Group IV	No Agglutination.	Agglutination.

Blood Grouping using only Group II blood.

TABLE IV

	Group III serum and unknown cells.	Unknown serum Group III cells.
Group I (Moss)	Agglutination.	No Agglutination.
Group II	Agglutination.	Agglutination.
Group III	No Agglutination.	No Agglutination.
Group IV	No Agglutination.	Agglutination.

Blood Grouping using only Group III blood.

Choosing of Donor: As has been emphasized previously, donor's cells should match serum of recipient, preferably further safe guarded by cross matching and grouping. As 100 cc. of incompatible blood may cause death.

A male 20-30 years of age, free from disease, with prominent ante cubital veins is preferable. Average donor may give 4-500 cc. every 4-5 weeks, but his blood should always return to normal before repeating. In using the same donor for the same recipient, especially after several weeks, small amounts should be given before large transfusion, to determine any sensitivity which may have developed. This is particularly true in repeated transfusions in blood diseases, as serum may contain many substances otherwise not demonstrable. Intra-dermal injections of donor's serum and cells may be used as a test, in the same manner as determining sensitivity to horse serum.

Persons with asthma or hay fever had best be avoided as it has been demonstrated that this sensitivity can be transferred.

Individuals having a tendency to polycythemia are reported as having a beneficient effect as donors for anemic patients.

Dosage: Brown-Sequard (1857) noted that much less blood was needed to revive a patient, than was lost in hemorrhage. It has been observed that 40% hemoglobin after hemorrhage is sufficient to supply the oxidative needs of the body at rest in bed. A further guide to dosage may be derived from the fact that approximately 5% of body weight is composed of blood. Therefore, a 155 lb. man would have about 4 liters of blood. Also 15 cc. of blood per kilogram of body weight will raise the red blood cell count approximately 1,000,000. The average dose for adults is 500 cc. and from 50 to 150 cc. for children. As high as 2500 cc. has been given to adults. Some recommend small transfusions of 50-100 cc. frequently repeated in hemophilia and primary anemias.

Indications for transfusions: "With the simplification of the technique of transfusion and with an increasing scientific understanding and control of many factors associated with former untoward results, there have come an increasing number of clinical conditions in which transfusion is being used." (Doan). Leisrink's generalization given in 1872 is still true. "Transfusion is indicated in all pathologic conditions where the blood, in quantity and quality is so altered that it is unfit to fill its physiological duties".

Definite effects of transfused blood are:
(1) Restoration of bulk of circulating blood.
(2) Provision of oxygen and assimilable pabulum for tissue.
(3) Increase of the coagulability.
(4) Stimulation of hematopoietic organs.
(5) Increase of resistance to infection by its antitoxic and bactericidal properties. (Pemberton).

INDICATIONS FOR TRANSFUSION

1. Severe Hemorrhage.
    (1) Traumatic.
    (2) Post-Operative.
    (3) Puerperal.
    (4) Ruptured ectopic pregnancy.
    (5) Surgical shock especially with bleeding.
2. Hemorrhagic Diseases of Blood.
    (1) Hemorrhagic diathesis of newborn.
    (2) Hemophilia.
    (3) Purpura, questionable value.
3. Illuminating Gas Poisoning.
4. Blood Dyscrasias.
    (1) Pernicious anemia } temporary
    (2) Leukemias. } palliative
5. Sepsis.
    (1) Streptococcus septicemia without heart involvement.
    (2) Other acute sepsis—unsatisfactory.
    (3) Chronic sepsis with anemia.
6. Immuno-Transfusion } "a hopeful
   "Vaccinating Transfusion" } method."
    (1) Specific—bacteria from case.
    (2) Non-specific—protein shock.

In severe hemorrhage there is nothing, which has the restorative powers of blood. Modified saline solutions serve no physiological function, except to restore volume, and that only temporarily as it is rapidly eliminated by the kidneys. Acacia solution used some during the war has been discarded. In this condition, transfusion by citrated method is the method of choice on account of its ease, and further more it offers all the benefits of unmodified blood. The decision to transfuse within the first few hours after severe hemorrhage must be made from clinical evidence. Blood counts and hemoglobin determinations are not reduced until the body has, at least, partially restored the blood volume. Furthermore, shock which is usually present, may cause peripheral stagnation, which would tend to make the count even higher than normal. Lack of appreciation of this point will undoubtedly explain many instances in which laboratory procedures have been unjustly derided, or at least, wrongly accused of technical error.

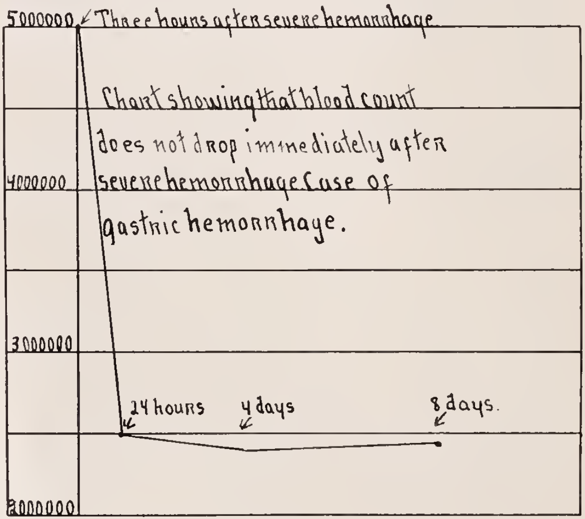

Fig I.

In hemorrhage diathesis of the new born it acts as a specific. Technical difficulties of transfusing into the veins of the new born may be faciliated by using the longitudinal sinus of the head or jugular veins, as only small amount are needed. Blood may even be injected intraperitionally or intramuscularily. *In hemophilia*, this procedure may carry a patient through a crisis and as long as the tranfused blood lives it acts very effectively. *In purpura* it is beneficial in so far as blood platets are transferred. The carbon monoxide from *illuminating gas* combines with the hemoglobin by a stable chemical union, thereby permanently destroying the oxygen carrying capacity of the effected red cells. Large transfusions are indicated, preferably preceded by bleeding. This, to be most efficacious, must be done before serious injury, due to deficient oxidation, has been done, particularly to the nerve cells.

There is a wide disparity of opinion as to the benefit of transfusion in *pernicious anemia.* The conservative opinion is that it is a temporary palliative. In leukemias it offers even less.

Its use in *septic conditions* is usually an unsatisfactory "last straw" procedure. In chronic sepsis of long duration, accompanied by anemia, it is a rational procedure. Koplek and Polak believe it to be of benefit in streptococcus septicemia without heart involvement, if used repeatedly and intensively. Pediatrists have recommended bleeding before transfusing healthy blood. This is known as "exsanguination transfusion".

In Immuno-Transfusions (Vaccinating transfusions), the donors are vaccinated with the organism, producing the infection in the recipient. This method is suggested by the use of convalescent serum in typhoid, measles, poliomyelitis, and, formerly, for scarlet fever. The present status of this procedure is aptly designated by Howell as a "hopeful method".

In rare instances it might be advisable to transfuse for the anemia resulting from malignancy. In this instance blood should be used from old donors, as with age some resistance to malignancy is developed. Obviously, the welfare of the donor must be carefully guarded.

In all transfusions, except for simple replacement of blood after hemorrhage, the direct transfer of unmodified blood should be used. Anticoagulants reduce the opsonic power of the plasma and interfere with phagocytosis. (Colibrook and Starer). Therefore, the citrated method should not be used in septic conditions.

Technic of blood transfusions.

Hueter, 1871, states "too much stress is laid on the technic as in all operations. First, a lot of new instruments are invented which are the pride of the inventors. Of all instruments only the simplest are kept." This is still true today. Methods in use are: (1) Indirect with anticoagulants. (2) Direct with some form of syringe. In the indirect method sodium citrate is usually used as an anticoagulant. Although Yates suggests that lithium citrate may cause less reactions. Points to be watched in citrate method are: (1) Sodium citrate must be chemically pure. Two and one-half per cent is a convenient strength. Then 10 cc. may be added for each 90 cc. of blood. Blood must be thoroughly mixed but not too vigorously agitated. It is best to have an excess of citrate. As the amount to prevent clotting varies with different bloods, even if gross clotting does not occur there may form "non-detectable chemical changes toward coagulation definitely known to be toxic". (Pemberton). Obviously very large needles should be used for bleeding the donor. A blood pressure cuff attached to the arm of the donor is a great convenience as then the pressure can be regulated to permit flow into the arm through the arteries and outflow through veins prevented. Any venous infusion apparatus is satisfactory for delivering blood to patient.

Direct Methods. Venous or arterio-venous anastomosis perfected by Crile are matters of history. Parafined containers (Percy) have almost entirely fallen into disuse. Procedures in use now, are modifications of the syringe methods. Either using several syringes or by use of two-way pet cocks. In all the latter a small amount of citrate solution or saline solution is necessary to keep syringes, needles and tubes patent. Success of direct method is more dependent on the operator than on the apparatus. Practice and experience with an apparatus which is not too cumbersome will lead to success.

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By means of diathermy—heat produced within the tissues—any temperature can be procured and retained without the least variation in degree. Heat is a most potent germicide. It can promptly relieve pain. It is a most valuable aid in restoring physiological neurovascular function. It is a potent agent in the re-establishment of physiological metabolism, constructive and destructive.—Dr. John Hunter (*Physical Therapeutics*).

In diagnosing mastoiditis we rely on the pain, the tenderness on pressure, and the bulging of the canal wall. In the vast majority of cases these three signs will be sufficient to justify an operation; but, as in all diseases, we have the occasional case where we are in doubt. In such we must rely upon the blood count and the x-ray for help.—Dr. C. R. Southard (*Compend. of Med. and Surg.*).

ACTINOMYCOSIS--A CASE REPORT

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Hardy, Nebr.

"Actinomycosis or lumpy jaw is a chronic infectious disease due to the ray fungus and characterized by the development of indolent granulomatous tumors which tend to break down and discharge a seropurulent fluid, containing the granular bodies characteristic of the infection." In 1877 Ponfick proved that the disease first recognized by Ballinger in the jaws of cattle, was the same as that which Israel in 1877 had observed in man. Hartz described it as the ray fungus. Majocchi was the first writer to describe the disease as it involves the skin. As early as 1845 Tangenbeck reported a case with an affection which is now know to have been actinomycosis. The first case reported in America was by Murphy in 1885.

The disease is most common in laborers, particularly among agriculturists. Cases in man have been reported to have been contracted while chewing uncooked grain. It may be transmitted from one individual to another or from man to animals and vice versa by inoculation. There is a somewhat general dispersion of the fungi in the atmosphere, water and soil. Actinomotic lesions have been observed to contain pieces of barley, wood, stone and vegetable fragments. In experimental work, seeds have been inoculated and the fungi have appeared on the stalks.

This parasite most often gains access to the body through the mouth, especially through carious teeth. The incubation period is thought to be, by some, as a period of several days. The skin is usually involved secondarily. In this event the lesions occur on the face and neck, particularly just below the jaw. These lesions are tumor like, are livid, firm and in cases which have progressed, present fistulous tracts. From these is poured a seropurulent or bloody fluid containing the ray fungus. The whole area is nodular, lumpy and boggy.

The onset of the disease is insidious but soon progress may be rapid. Metastases to the lymphatics may occur. No part of the body is impenetrable. Subjective symptoms, as a rule, are not significant. They consist of a sense of stiffness, limitation of movement, and, of course, some distress incident to social contacts.

Diagnosis, according to a recent article appearing in Surgery, Gynecology and Obstetrics, is based on the clinical picture, the finding of the sulphur granule, and the microscopic demonstration of the actinomyces. Most of the cases reported in this article were diagnosed at once. Infrequently the laboratory has failed to prove what response to treatment for actinomycosis has evidenced.

The treatment of actinomycosis is said to be largely empiric. Surgical measures, combined with application of tincture of iodine and the internal administration of potassium iodide in increasing doses apparently has a great influence on the disease. Others have demonstrated the success of the combination of potassium iodide and x-rays. The oil of eucalyptus has been reported to be of great value in the case of pulmonary actinomycosis. Radium has been recommended by New and Figi of the Mayo Clinic.

PROGNOSIS

This should always be guarded since internal involvement may have occurred. Schlange, at the Congress of German Surgeons held in 1890, called attention to the fact that of nearly two hundred patients under his care forty had remained well for more than two years, and in eighty the disease remained limited to the head and neck. One patient had been under treatment for thirteen years and had just been relieved at the time the report was given. Most of the localized cases recover. New and Figi reported in Surgery, Gynecology and Obstetrics in 1923 a series of one hundred and seven actinomycotic cases of the head and neck. Eighty-five of these were traced after two years. Sixty of these remained well for one or more years, eighteen were still under treatment and seven were dead. Recurrences after iodide treatment have not commonly been reported and when they do occur it is usually within several weeks of the apparent cure.

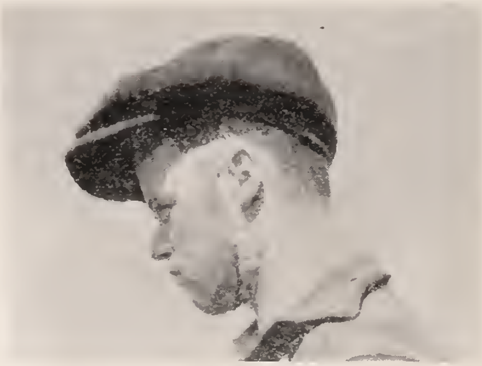

Fig. I. When first seen.

Erving, in 1902, in the John Hopkins Bulletin, reported that out of a total of fifty-three American cases of Actinomycosis of the head analyzed by him, thirty-six recovered and five died.

REPORT OF CASE

Mr. P. H., a farm hand, aged twenty-three, came in March 8, 1927, complaining of a slowly enlarging discharging lesion on the left lower jaw and upper neck. He stated that the lesion had been present several weeks. Later he gave a history of caring for a herd of cattle among which were several with "lumpy jaws". The diagnosis was made after several weeks of treatment showed no affect. At this time microscopic examination of the discharge showed the ray fungus. Physical examination showed only apparent local involvement of the jaw and neck. Increasing doses of potassium iodide were given. Five doses of x-ray were given at the same time by Dr. Rork of Hastings, over a period of about two months. Improvement was noticed in ten days. A series of photographs was made showing fairly well the gradual regression of the lesions. Several small hard nodules were opened and curetted, then were painted with tincture of iodine. Iodinism occurred only after an apparent complete disappearance of the nodules.

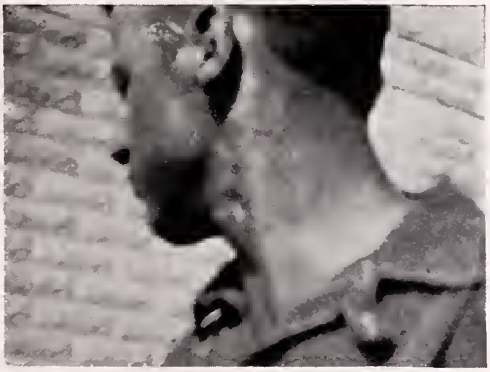

Fig. II. Apparently cured.

COMMENT

Actinomycosis is not as rare as it was thought formerly to be. The public should be cautioned regarding the presence of fungi upon vegetation. Early and intensive treatment is essential in obtaining a cure.

I wish to express my gratitude and appreciation to Dr. McMahon of Superior, Nebraska, for his kindly and valuable suggestions in the handling of this case, and in the preparation of this paper.

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THE FUNCTIONS OF THE DIAPHRAGM AND INTERCOSTAL MUSCLES AND THEIR CLINICAL SIGNIFICANCE

(APPLIED ANATOMY)

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Each external intercostal muscle has origin from the lower edge of a rib and directed anteriorly and inferiorly inserts on the upper edge of the rib below. Each extends from the rib tubercle posteriorly to nearly the costal cartilage anteriorly. Each internal intercostal has origin from the lower edge of a rib and directed inferiorly and posteriorly inserts on the uper edge of the rib below. Each extends from the sternum anteriorly to the angle of rib posteriorly. (Fig. 1) The first rib is held stationary or anchored by the scalene muscles and each succeeding rib by its bucket handle motion moves through a greater arc than the above rib. This movement is cephalad, forward and lateralward with only slight increasing of the intercostal spaces. Any underlying lung pathology will by reflex, limit the amount of motion of the overlying rib. This is of particular clinical significance in tuberculosis of the apices where there results a diminished movement of the upper five ribs.

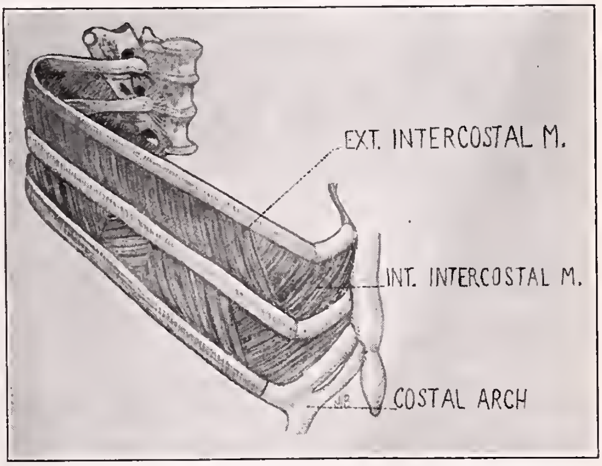

Fig. 1. Direction of fibers of external and internal intercostal muscles. The external intercostals elevate the costal arch cephalad, forward and lateralward.

In ordinary tranquil respiration the external intercostals raising the ribs cephalad, increase the anterior-posterior and lateral diameters of the thorax. The internal intercostal muscles probably play no part in tranquil respiration. Expiration is brought about by the elastic recoil and weight of the thoracic skeleton. During hyperpnea the external intercostals are active during inspiration and internal intercostals are active during expiration. The scalene and serratus posterior superior are auxiliary muscles for inspiration and the transverse thoracis and serratus posterior inferior are auxiliary muscles for expiration.

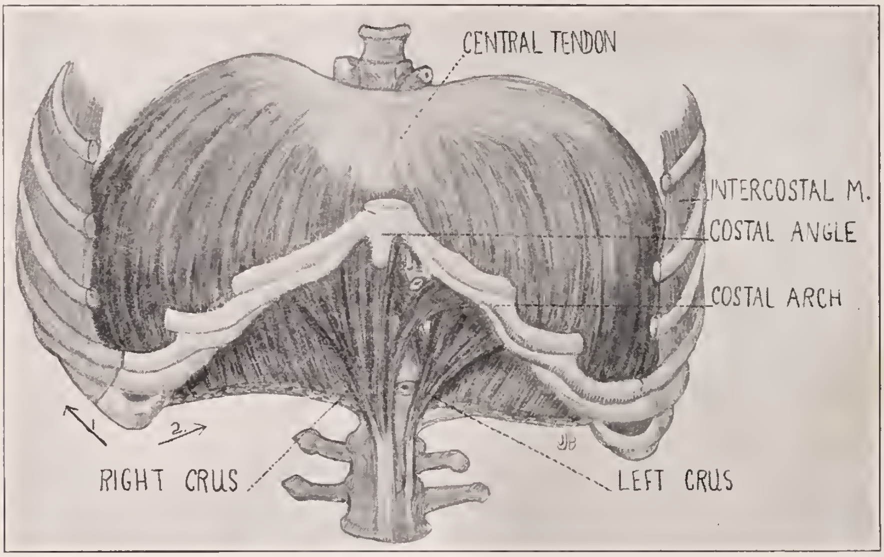

Fig. 2. Origin of diaphragm from sternum, costal arch, lower six ribs and lumbar vertebrae. Arrow (1) indicates direction of pull of external intercostal fibers. Arrow (2) indicates direction of pill of diaphragm fibers. If the diaphragm becomes flattened, there results a more direct medial pull of the diaphragm.

The sum total of the action of the lower intercostal muscles in inspiration is expressed in the widening costal angle and outward movement of the costal arches. (Fig. 2).

The diaphragm is a dome shaped musculo-aponeurotic partition between the thoracic and abdominal cavities. It consists of a peripheral muscular portion and a central tendinous portion. The diaphragm has three origins, the sternal portion, the costal portion from the lower six costal cartilages and ribs, and lumbar portion from the lumbar vertebrae by the crura and medial and lateral lumbo-costal arches. (Fig. 2). These muscular fibers insert in the central tendon which is a thin aponeurotic sheet near the center of the dome but placed more anteriorly than posteriorly. The central tendon is divided into three leaflets, right, median and left. The pericardium is attached to the central leaflet. If the diaphragm were a flat structure the contraction of its fibers would draw the costal arches medialward. Although dome-shaped, its functions tend to bring in the costal arches, but the doming upward of its fibers make it work at a mechanial disadvantage as far as the median direction of force is concerned (Fig. 2). The portion of the diaphragm attached to a segment of the costal arch is a direct antagonist of the intercostal muscles and ribs controlling that portion of the arch. Due to the mechanical disadvantages of the diaphragm fibers, the intercostal muscles have mastery over the costal arch under normal conditions, and the costal arches move outward upon inspiration.

Any tumor or pressure above the diaphragm will flatten the diaphragm resulting in the fibers working at a less mechanical disadvantage and

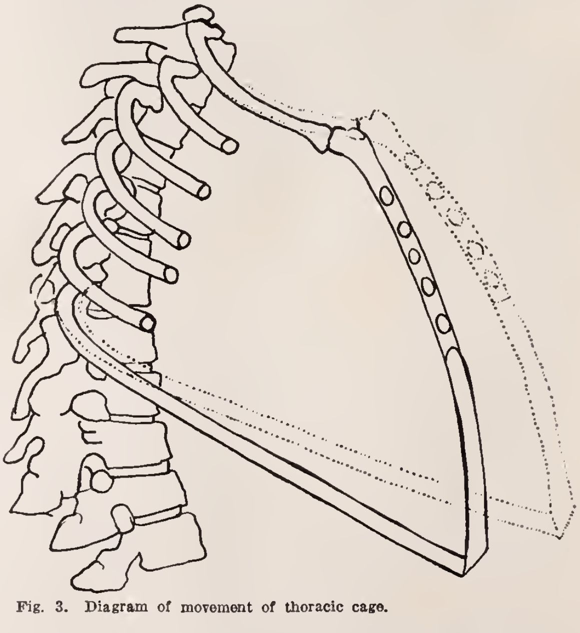

Fig. 3. Diagram of movement of thoracic cage.

being less mastered by the intercostal muscles. The costal margins would then fail to move outward to a normal degree, remain stationary or even be pulled inward if the flattening was sufficient for the diaphragm fibers to work at such a mechanical advantage as to overcome the intercostal muscles and have mastery of the costal arches.

A paralysis of the intercostal muscles or a tumor mass (large heart, abscess, etc.) equally flattening both sides of the diaphragm, will cause an inspiratory narrowing of the sub-costal angle and inspiratory retraction of the costal margins of both sides.

When one side of the costal margins moves normally outward and the other side moves less, remains stationary or moves toward the median line during tranquil inspiration it means that the diaphragm on the effected side has equaled or gained the mastery of the costal margins. This will occur when the intercostal muscles of the same side are paralyzed or when the diaphragm is sufficiently flattened by a pneumothorax, pleurisy with effusion, pericarditis with effusion, enlarged heart, or a supra-diaphragmatic tumor or abscess.

The entire costal margin of one side may move more in an outward direction than the other side when there is an acute swelling of the liver, a sub-diaphragmatic tumor or abscess. These conditions increase the curve of the diaphragm and put the diaphragmatic fibers at more of a mechanical disadvantage than normal. This observation distinguishes sub- and supra-diaphragmatic tumors and abscesses. In massive collapse of the lower lobe or entire lung of one side, the curve in the diaphragm is greatly increased and the costal margin will move more in an outward direction on that side.

Paralysis of the intercostal muscles with intact diaphragm and abdominal muscles reduces the vital capacity about 15 per cent. (Hoover). Paralysis of the diaphragm with intact intercostal muscles and abdominal muscles reduces the vital capacity 50 per cent. A paralysis of the intercostal muscles and abdominal muscles with intact diaphragm reduces the vital capacity about 70 per cent. (Hoover).

VIENNA EYE, EAR, NOSE AND THROAT CLINICS*

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Vienna holds an enviable position among the post-graduate schools of the world, and, in diseases of the eye, ear, nose and throat it undoubtedly is today, as it was formerly, the greatest.

The University of Vienna was the first in the world to possess a regular teaching post and clinic for Opthalmology, the Empress Theresa in 1773 having appointed Barth as professor. It was *alone* in the field until 1886 when the great Von Graefe was named the first professor of Opthalmology in Berlin.

However, it was not until the days of Fuchs and Politzer that the fame of the clinics spread to our country and they became recognized as the leading school for post-graduate instruction. Because of the large number of English-speaking doctors in attendance it was found to be very advantageous to offer the courses in English. This in turn attracted more and as a result in 1903 there was organized the American Medical Association of Vienna for the purpose of promoting post-graduate medical work. This organization was discontinued during the World War, but in 1921 it was reorganized and today it is the largest English-speaking medical organization on the continent.

It now is really the registrar's office for all courses. Here all arrangements for the various courses are made and the fees paid. If a new course, other than those regularly offered, is desired the orientation man for that specialty makes all arrangements.

They have arranged a definite schedule of fees for the various positions of Hofrat, Professor, Docent and Assistant and they are paid so much an hour. The cost of the course to the student, therefore, depends on how many may take the course. Because of the early demand for courses in ear, eye, nose and throat and the fact that a large majority of those taking post-graduate work in Vienna desired these courses, this specialty is now the best organized and has the largest group of English-speaking instructors.

The international reputation of these teachers is without equal. In this country we perhaps have equally great clinicians, but they are too busy to teach, or if they do teach, it is usually only a formal lecture course. These famous men have so small an allowance from the state that they are glad to accept classes. As a result you are able to study under the masters themselves. The poverty of the people causes the clinics to be crowded and the material for study is abundant.

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*Read before the Third Councilor District Medical Society, Dec. 15, 1927.

The courses offered are all short and deal only with one phase of the subject and are usually repeated after only a short interval. A great many are given at the same time so it is possible to obtain work in any subject desired and to repeat whatever is not thoroughly understood without great delay. These courses include lectures, demonstrations, individual examination of clinical cases and cadaver courses. The universal autopsy makes the material for cadaver courses abundant. These are given at the Pathological Institute which joins the General Hospital.

The eye work is chiefly given in the two large eye clinics of the General Hospital. The First Eye Clinic (the old Fuchs Clinic) is now under Prof. Lindner who is famous for his work on trachoma and his system of retinoscopy with cylinders. He has recently given us a new conception of the bacteriology of the eye. He, personally, instructs in retinoscopy with cylinders and bacteriology of the eye.

In this clinic Docent Guist gives very complete courses in external diseases of the eye, ocular histopathology, and a cadaver course in eye operations. His own operation for squint is proving very successful. He was one of the first to successfully photograph the fundus of the eye. In this clinic, also, is given the best instruction in opthalomoscopic examination of the eye. This course given by Docent Pillat is complete, covering typical and rare lesions of the eye grounds. Many of these rarer cases are employed by the clinic for demonstration purposes. You not only see one illustration of each disease but all stages and forms of it. Dr. Pillat also gives courses in examination of the fundus with red-free light. This light being of very low penetration makes it possible to see the nerve fibers of the retina, a thing heretofore impossible. A complete course in slit lamp examination of the eye is also given. A similar course can be obtained in this country only at rare intervals in a few large eastern cities and at four or fives times the cost of the course there.

In the Second Eye Clinic, Prof. Meller gives an excellent course in surgery of the eye. Docent Bachstetz, perhaps the best teacher of all, gives the clearest explanation of the intricate action of the eye muscles, their diseases and treatment, I have ever heard. His course in ocular anatomy is illustrated by numerous dissections. He also gives the best instruction in the visual fields and operations on pig eyes. Docent A. Fuchs (son of the master opthalmologist, Ernest Fuchs) teaches histopathology of the eye and external diseases. In this histopathology course he uses material from the largest collection in the world —that of his father. This has been collected for a great many years and since they enucleate about 2000 eyes a year, their material is plentiful.

The eye department of the Polyclinic as well as the First Eye Clinic gives thorough courses in refraction.

Besides these courses it is possible to actually work in the clinics doing routine examinations and treatments under supervision for about $10.00 a month.

The instruction in the ear is given chiefly at the Neumann Clinic in the General Hospital and at the Alexander Clinic in the Polyclinic.

At the Neumann Clinic (formerly Politzer's Clinic) a complete series of courses covering otology is given by Prof. Ruttin, whose book on the labyrinth is over best authority. Docent Beck's course on syphilis and tuberculosis of the ear and Assistant Popper's course in mastoid surgery on the cadaver are exceedingly worth while.

At Alexander's Clinic, the course in otology in childhood is given by Prof. Alexander himself. Dr. Benesi's course in the clinical study of the ear drum, Dr. Fisher's course in histopathology of the ear and Dr. Bunner's courses in functional testing and otoneurology are outstanding.

The best work on the nose and throat is obtained at Hajek's Clinic. Here Dr. Hirsch has gained an international reputation for his course on the anatomy of the nose and throat. He has every conceivable dissection and cross-section to illustrate each point. His transnasal operation on the pituitary is now widely used.

Dr. Grossman gives histopathology of the nose and throat. With this course each is given a collection of 100 slides of the various types of normal and pathological tissues.

Clinical nose and throat is given by either Dr. Feuchtinger or Dr. Steinberg and these courses may be followed by actual work on the patients of the clinic.

Perhaps the most outstanding courses offered at the Hajek Clinic are those by Dr. Haslinger in clinical laryngology and endoscopy. For one who wishes to learn to pass the bronchoscope or esophagoscope this course is unexcelled. To my knowlege this is the only place in the world where students are allowed to pass the scope on patients. In this country the best course given is by Dr. Chavalier Jackson of Philadelphia and in his course only narcotized dogs are used.

In practically all the clinical courses numerous patients are examined by the student who must then describe what he sees and be checked by the instructor. This system undoubtedly makes for greater accuracy in observation and diagnosis.

Besides the scheduled courses it is possible to spend any length of time desired working as hospital internes or clinical assistants in the eye, ear, nose and throat departments of the clinics or the numerous hospitals scattered over the city. This would be invaluable to one who lacks clinical work in the specialty.

Taking the clinics as a whole, one is struck with the large amount of material available, the thoroughness of the instruction and the intense interest the instructors show in each student. This is made possible by the small number of students and the close contact between the instructors and students.

As a school of post-graduate instruction in eye, ear, nose and throat, Vienna is still unexcelled.

NEBRASKA UNIVERSITY HOSPITAL

CLINICO-PATHOLOGICAL CONFERENCE

A. D. DUNN, M. D., INTERNIST, AND A. J. MILLER, M. D., PATHOLOGIST.
Edited by W. W. Herrmann.

CASE NO. 21693. April 1, 1927.

A laborer, 57 years of age, walked to the ward, December 26, 1926, complaining of:

Shortness of breath,
Swelling of the lower extremities,
Aches and pains in both shoulders,
A throbbing occipital headache.

He was entered on the Medical Service of Dr. E. L. Bridges and Dr. Rodney Bliss.

ONSET AND DEVELOPMENT: He had always lived near North Bend, Nebraska. Thirty years ago the patient was confined to bed for about one month because of chills and fever which occurred twice daily. There was no other symptom. His condition at that time was diagnosed as "ague". Three weeks later he became nauseated and vomited. There was a mild headache and mild aching of all joints. His bowels were unaffected, and the trouble was diagnosed as "typhoid-malaria" and he was kept in bed for about three months.

Twenty years ago the patient had difficulty in walking because of tender and swollen ankles. The pains in his joints became migratory in character and he was taken to a sanatorium on a stretcher. He does not remember fever, but was confined to bed for three weeks. A diagnosis of acute inflammatory rheumatism was made and dental work was suggested. On dismissal he had no trouble in walking, going up and down stairs without distress. Work was resumed in three weeks.

Until two months ago he was apparently well, then dyspnoea was noted on exertion. Dental work was begun on a doctor's advice but was discontinued when the dyspnoea increased. His feet began to swell about three weeks ago, at which time it became necessary for the patient to be propped up on three pillows. Cough developed two weeks ago. Headache began immediately before entrance.

PREVIOUS ILLNESSES: He had measles and mumps in childhood. For the last four years he has had to wear glasses to read. About the same length of time he has been troubled with frontal headaches which occurred on rising, wore off as the day progressed, were absent during the afternoon only to be present on rising the following morning. There had been no sore throats or tonsillitis. He denied the possibility of venereal infection. His weight has remained about 160 pounds. He had drunk alcoholic liquors occasionally.

FAMILY HISTORY: His father died at 45 of quick consumption. There were no brothers nor sisters. He had four children, 17 to 32. all living and well.

PHYSICAL EXAMINATION: A middle-aged man lay flat in bed napping. His face was puffy, distended and tense. There was evidence of general anasarca. He roused easily when spoken to and complained of headache.

Head: Pupils were contracted, and reacted to light and accommodation. There was no nystagmus nor strabismus. There was no nasal obstruction, sinus tenderness nor alteration in hearing. The tongue was smooth. Only two upper teeth remained; the lowers were stubbed and contained many cavities. The tonsils were present but were not injected.

Neck: There was slight arterial pulsation of the vessels of the neck.

Chest: Chest was symmetrical, and the breathing was thoracic in type.

Lungs: Anteriorly fremitus, resonance and breath sounds were unaltered. Posteriorly there was an absence of fremitus, flatness to percussion and diminished breath sounds in both bases. Above this area whining rales were heard which disappeared on coughing.

Cardiac: Apex was in the 6th interspace anterior axillary line. The cardiac dullness was recorded as 5; 6.5; 6.5; 8; 9; and 10 cm. in the 1st, 2nd, 3rd, 4th, 5th and 6th interspaces, respectively. There was no right sided enlargement. There was a loud systolic blow heard best at the apex followed by a normal second sound. This murmur diminished in intensity upward. There was no diastolic murmur and no thrill. A2 and P2 were of equal intensity. The rate and rhythm were entirely irregular; there was a pulsus bigeminus, 140 to 160 beats were heard at the apex and 62 were felt at the radial artery.

Abdomen: The abdomen was rounded and tense. The superficial tissue was edematous. The dome of the liver was in the 5th interspace, the edge was rounded and extended to the umbilicus. There were no masses, rigidity nor tenderness.

Extremities: There was a marked edema of the lower extremities. The knee reflexes were not definite. The Babinski and Oppenheim were negative, the triceps and biceps positive.

LABORATORY: Numerous urine examinations were made. The specific gravity varied from 1012 to 1030, the reaction was alkaline and there was no albumin, sugar nor diacetic acid. The microscopic examination was negative except for an occasional R. B. C. (January 3, 1927) and a few R. B. C.'s (January 7, 1927). Two blood counts were both normal. Hemoglobin 80% to 85%, R. B. C.'s 4,750,000 to 4,160,000; W. B. C.'s 9,700 to 8,400 with 76% polymorphonuclears and 24% lymphocytes.

The blood pressure dropped from 180/65 on entrance to 140/60 with rest. Two blood Wassermanns were both negative. The blood N. P. N. was 40 mg. and the creatinine 1.5 mg.

PROGRESS: On entrance the temperature was 98.2, the pulse 60 and the respirations 18. He was in the hospital 17 days. His temperature was usually subnormal, having been above 99 on eight occasions, but averaged 98 or below. The pulse at the wrist was recorded by the nurses from 44 to 80 and respirations ranged from 32 to 15.

Digitalis was given followed by diuretin. Fluid intake was limited to 1000 c.c. The urinary output increased from 800 at first to 2400 on December 31. Mental unbalance was demonstrated on this date. Pulse deficit was still about 50%—60 to 120 or 140.

January 4. Pulse deficit less. Heart rate 90, radial pulse 60. The systolic murmur was again reported, but no diastolic murmur was heard. The electrocardiogram taken December 31 showed an absence of the P waves and was interpreted as auricular fibrillation.

January 5. X-ray reported "Complementary spaces filled, no fluid at bases. Dome of diaphragm is irregular as though held up by an adhesion on the right side. The apices are clear. There is some mottling of both lungs with increased peribronchial tracings. The heart is transverse type showing some enlargement both to right and left side. Great vessel area is not enlarged".

January 11. Patient was rather irrational and complained severely of headache. Ophthalmoscopic examination showed both discs regular and clear with tortuous vessels radiating from the fundi. No abnormalities were noted.

January 12. At 5:30 a. m. the nurses reported cyanosis, a radial pulse which was not palpable and patient gasping for breath. By telephone order, caffein was given hypodermically. When seen the radial pulse was full, irregular, 40 to 50, while 130 to 140 beats were heard at the apex. He was perspiring and was pale.

At 7 a. m. respirations were regular, about 30. Pulse was irregular (140 apex, 40 wrist). He did not respond well to questions. Face was cyanotic. Left eye was closed, right eye open. Facial expression was exaggerated on the left side, mask-like on the right side. Mouth was drawn towards the left. Chest examination demonstrated a few coarse gurgling rales in the upper chest, but no evidence of fluid was noted in the bases. Heart apex was in 5th interspace, midclavicular line. Loud systolic murmur was heard best at apex. Rate, volume and rhythm were irregular. Flaccidity of right arm and leg persisted. Abdominal reflexes elicited left, not right. Arm and knee reflexes were unchanged. Babinski, ankle clonus were unchanged.

3 p. m. Ophthalmoscopic examination showed the right fundus unchanged. The left fundus was indefinite, hazy and blanched. No radiating tortuous arteries were seen. Veins in region of fundus were also empty but in periphery of the retina the smaller vessels contained some blood.

8 p. m. Since cerebral insult patient only grunted answers. Right facial paralysis and hemiplegia remained unchanged. While being turned by nurse onto right side he became cyanotic and died a cardiac death.

DR. DUNN'S DISCUSSION:

The entrance complaints of this patient indicate at once that we have a circulatory problem to deal with.

The information given concerning his illness of thirty years ago is insufficient to warrant our making a guess as to its nature. I know of no ague that gives chills and fever twice a day, and the fact that he became nauseated and vomited three weeks after onset and at this time suffered some headache and mild joint pains, further indicates that the chills and fever were not due to the plasmodium of malaria.

The symptoms described in the illness of twenty years ago are such that we may assume that the man suffered an attack of acute rheumatic fever at that time. Then we have a lapse of some twenty years during which the man was apparently in good health, the first symptom of failing health being a shortness of breath. Thinking no doubt in terms of focal infection, dental work was advised by his physician. I think that we are often negligent in regard to dental work. We think that we have done our duty when we tell a patient to have his teeth out, paying little attention into whose hands the patient may fall to have the teeth extracted. For, in taking teeth out from a focal infection standpoint, the infection must be eradicated, not stirred up with a curet.

There is a history of headaches for the past four years, frontal in location, present on rising and wearing off during the day, gone in the afternoon only to be present again the following morning. The only headaches that answer this description are those of nasal or accessory sinus origin or possibly from ocular disturbances.

The patient comes into the hospital with shortness of breath and other symptoms of cardiac disturbance, but he no longer needs to be propped up in bed and at the same time he has an anasarca. What does that mean? When the right heart fails the patient becomes temporarily better. It is during the period of time that there is failure on the part of the left heart to handle the blood supply that we have aggravating pulmonary symptoms.

Under the description of the chest we have sufficient signs to diagnose effusion in both chests, although we would like to know something about the transmission of voice sounds and it is also well to note the change in physical findings with the change of position of the patient. To percussion, the heart area is enlarged to the left, but I would question the statement of no right-sided enlargement. The x-ray shows an enlargement of about 6 cm. to the right. It would have been better to say that no right-sided enlargement was noted on percussion. We have a marked pulse deficit with 140-160 beats heard at the apex and only 62 felt at the wrist. From an electrocardiographic standpoint we have an auricular fibrillation. The heart is beating very rapidly at a rate that would not permit of an accurate estimate of the lesion at the mitral valve.

In diagnosing cardiac conditions remember Frantzel's rules:

1. Do not make a diagnosis in rapid hearts,
2. Beware of right heart lesions,
3. Beware of multiple diagnoses.

The laboratory examination of the urine gives no information other than that there is a renal stasis. The change in blood pressure after rest in bed is probably of no real significance as there is usually a fallacy in the blood pressure taken on the arrival of a patient at the hospital. It is a common thing to find a reading of 150-180 on the first examination and on the next day when the patient has become more adjusted to his surroundings, a reading of 120-125. The initial reading almost always has to be repeated. The blood examination shows nothing in the way of an infection or anemia.

The chest roentgenogram taken January 5th shows the apices clear and a broad, mitralized type of heart. I don't want to say much about adhesions holding up the dome of the diaphragm. There is nothing in the x-ray that would lead me to make any statement about extensive adhesions.

I don't know why this man had a headache. It occurs in high blood pressure and in mitral stenoses. In such instances the headaches are due to brain swelling. The ophthalmoscopic examination, however, states that the discs are normal, only an arteriorsclerosis being suggested by the tortuous vessels radiating from the fundi.

What happened at 5:30 a. m. on the 12th? Something occurred, suddenly followed by a marked change in the man, facial paralysis on the right side, hemiplegia on the right side with a going out of the patient in about 14 hours from the time this happened. The known presence of an auricular fibrillation suggests a possible embolus from an auricular mural thrombus. The ophthalmoscopic examination showed a hemiplegia. In other words we have a plugging of the anterior cerebral artery. It must go farther back than that to account for the hemiplegia; it must involve the main artery. This was not a hemorrhage, it was embolism.

Now to construct a diagnosis we have certain things to base it on. We have:

1. A systolic blow at the apex,
2. A broad heart,
3. Auricular fibrillation,
4. Embolism,
5. Decompensation,
6. A history of rheumatic infection.

We can exclude any active endocarditis; whatever is happening in this heart is happening on account of the mechanical defect or on account of the muscle defect or both. The systolic murmur at the apex has nothing definite associated with it. The type of broad heart is not the type that one would expect in a murmur of purely muscular origin. There is nothing to make us think of an acute endocarditis, yet, the embolus must have come from the heart, so our most likely guess is:

1. Endocarditis, chronic, at the mitral valve and the lesion of the mitral valve is stenosis. Hypertrophy and dilatation.
2. Mural thrombosis in left auricle.
3. Possibly an old myocarditis. It is a scar proposition.
4. Embolism involving the left, middle and anterior cerebral arteries—that is the internal carotid—with cerebral softening.
5. Anasarca from a complete breakdown, involving both right and left heart.
6. Stasis in the lungs, liver, spleen and kidneys.

Student: How about arteriosclerosis?

Dr. Dunn: We have one bit of evidence and that is tortuous arteries in the retina. These did not appear until after the embolism had occurred.

Dr. Keegan: How do you explain the extreme edema? Does one have this in a mitral stenosis?

Dr. Dunn: Yes. When the left heart breaks down one usually has a generalized edema. A chronic adhesive pericarditis is possible as a cause of the anasarca but no evidence for its existence has been presented and one cannot advance such a diagnosis on faith alone.

DR. MILLER'S DISCUSSION:

The body was well developed and fairly well nourished. The skin was still warm as it was about five hours postmortem. No petechiae were seen.

The peritoneal cavity contained no excess fluid. The spleen was adherent over its convex surface. The pericardial cavity was entirely obliterated by old adhesions but the sac was only very slightly thickened and there were no adhesions between the sac and the chest wall. The right pleural cavity was partly obliterated by adhesions at the base and posterolaterally. On the left side there were adhesive bands at the apex and at the base. The pericardium was attached to the pleura on each side. In situ the heart measured 10.5 cm. to the left and 3.5 cm. to the right of the midsternum. The vertical diameter was 8 cm.

The heart weighed 460 gm. with the pericardial sac attached. The sac could be dissected off by blunt dissection but nowhere was there a serous cavity found. The sac was not thickened. The right ventricle wall was 5 mm. to 7 mm. in thickness and the left 16 mm. to 19 mm. in thickness. The wall of the left atrium was thickened and its moderator bands enlarged. No changes were noted in the tricuspid, pulmonic or aortic orifices. The valve flaps were not remarkable. The mitral valve orifice was slightly narrowed by adhesions of the leaflets at the anterior angle. At this place was a very small, old, firm vegetation. At several places along the margins of the leaflets there was scar tissue and thickening which was evidently the result of former inflammation. The chordae tendineae and lining of the left ventricle were particularly free from evidences of inflammation. The lining of the left atrium, however, was thickened and had several localized, granular plaques, which, with the scarring in the leaflets, gave one the impression of healed, rheumatic endocarditis. Sectioned surfaces of the musculature showed very little scarring but there were a few places where connective tissue seemed to be definitely increased. These were of minor consequence, however. Sections of the heart muscle showed arteriosclerotic thickening of very small vessels in the regions of the scars noted grossly. A few very small masses of scar tissue were found in the septa and these appeared to be old Aschoff bodies. They were not associated with the scars noted grossly. Sections of the valve leaflets showed them also to have lesions which resembled healed Aschoff bodies, but with it there was much scarring and degeneration to confuse the interpretation. The pericardial scarring showed no lesions suggesting Aschoff bodies. These lesions were interpreted as healed, rheumatic fever of the mitral valve and lining of the left atrium, resulting in hypertrophy of the left atrium and right ventricle and arteriosclerosis of the smaller vessels in the musculature of the left ventricle with resulting hypertrophy. There were no specific changes in the pericardium to suggest the etiology of the inflammation there. Small petechiae were found in the pericardium. In the appendage of the left atrium and in the apex of the right ventricle between the columna carneae were a number of friable, light colored, premortem clots.

The right lung weighed 420 gm. and the left 300 gm. There was no edema or evidence of infection save for the scarring of the pleura mentioned above. In the lingula was a small infarct. Sections showed the apical scars to be well healed. There was a definite increase in connective tissue in the walls of the air sacs. Heart failure cells were not abundant but there were a few. Congestion of vessels was slight. Quite a number of the small vessels were thickened by an increase of tissue in the intima.

The liver weighed 1570 gm. There was considerable scarring in the region of the gallbladder. Sectioned surface showed a very slight, nutmeg mottling. No changes were noted in the gallbladder. Microscopic study revealed rather small liver cells, poor in glycogen. There was definite atrophy of the liver cords in the region of the central veins with dilatation of the sinuses, but it was not marked.

The spleen weighed 200 gm. The adhesion mentioned above was in the site of an infarct which extended from the hilus to the convex surface. Sections showed a large artery with a comparatively recent plug filling the lumen. Blood pigment was moderate in amount. There was no increase in connective tissue. Vessel thickening was not more than one would expect at 57 years.

The gastro-intestinal tract revealed nothing of moment except for recent capillary oozing in the mucosa of the stomach, small bowel and colon. This hemorrhage was agonal.

The right kidney weighed 180 gm. and the left 170 gm. In each kidney there were a few wedge-shaped scars resembling arteriosclerotic infarcts. Also, in each kidney there were a number of recently formed embolic infarcts. These were friable and gray in color. Sections revealed enough arteriosclerosis in the region of the small scars to account for the infarcts on that basis. The recent infarcts were sterile but were breaking down. There was quite definite congestion of the capillary tufts and also of the capillaries surrounding the tubules.

The adrenals also showed considerable congestion of the vessels in all portions of the section.

The pancreas showed no gross changes. Microscopically a slight increase of connective tissue was seen here and there. In quite a number of the ducts there was beginning necrosis without reaction about it. Evidently this was agonal or postmortem.

Elasticity of the aorta was good and intima was quite free from atheroma.

The bladder and prostate were not remarkable.

The brain weighed 1260 gm. The meninges were free from any inflammatory changes but were distended with fluid. The left internal carotid artery was completely plugged with a friable, grayish embolus from a point 3 cm. below the inner orifice of the carotid canal to the bifurcation of the vessel; so, this artery could not receive blood from the posterior or anterior communicating branches. The posterior communicating branch was unusually small. Beyond the embolus the lumina of the arteries contained liquid blood. There was no bloody fluid in the ventricles nor was there hemorrhage in the brain substance. Sections of the carotid artery revealed the embolus tightly fitting the lumen but not attached to the wall of the artery anywhere by organization. There was no disintegration of the brain substance anywhere. The convolutions appeared slightly smaller on the right than on the left but there was no difference in consistency.

Necropsy findings are summarized as follows: Hypertrophy and dilatation of the heart; rheumatic endocarditis, healed, of the mitral valve, resulting in stenosis; pericarditis healed; mural thrombi of the left auricle and ventricle; arteriosclerosis of small vessels of left ventricle; infarcts of kidneys, spleen and lung; chronic passive congestion of lungs, liver and kidneys, slight; and embolism of left internal carotid artery. This patient's condition may be summarized as one of old endocarditis, resulting in stenosis of the mitral valve with hypertrophy of the heart, arteriosclerosis of the small vessels in the left ventricle, the formation of mural thrombi and embolism of the internal carotid, resulting in death. The hypertrophy of the right ventricle might be explained by the stenosis of the mitral valve, since the lungs showed definite evidence of congestion. The hypertrophy of the left ventricle would not be explained by any valve defect found. It probably would not be explained by the pericarditis since this connective tissue was rather delicate and there was no binding of the pericardial sac to the chest wall, which is quite necessary for the explanation of cardiac hypertrophy on the basis of adhesions. The infarcts in the kidneys, spleen and lung were small and should have been well borne by the patient. It is possible that they were the explanation of pain. It is very probable that the edema, which is recorded in the history, the shortness of breath and aches and pains were the result of myocardial degeneration from which the patient recovered quite well during his hospital regime, since there was no excess of fluid postmortem.

A SIMPLER METHOD IN DISLOCATED HIPS

To the Editor:

During the past week it has been my pleasure to entertain Dr. Ralph Soto-Hall of San Francisco. Dr. Soto-Hall is an orthopedic surgeon and has just returned from two years of service with Professor V. Putti of Bologna, Italy.

Dr. Soto-Hall has brought to my attention a recently developed method of Professor Putti's which I think it is of the greatest importance to call to the attention of all Nebraska physicians. For many years I have been recommending that patients with congenital dislocation of the hip be sent to me at the age of about two or two and a half years, this having been the method that I was taught originally and the method in general use throughout the country at the present time.

Professor Putti has been advocating a method by which these patients are treated during the first year of life and before they begin to walk. The dislocated hip or hips are brought into the acetabulum by means of a simple mechanical device which is operated in some cases by the home doctor and even by the mother and the early reposition of the hip thus obtained has the advantage of doing away with much of the atrophy of the head and deformity of the neck which we find in some of these cases where the child has been walking or trying to walk, for some months.

Dr. Soto-Hall tells me the reposition of the head of the femur in congenital dislocation of the hip by this method of Professor Putti's has not only been much simpler but that earlier and much more satisfactory results have been obtained and most of the complications above referred to are avoided.

What I wish to suggest, therefore, is that physicians should be on the look-out for these conditions much earlier than we have been accustomed to recommend. The diagnosis is not always easy to make by physical examination. The wider spaces between the thighs, the increase in depth and width of the gluteal fold and the shortening of one limb if the condition is unilateral, can usually all be recognized however, upon careful inspection. In fact, it is not uncommon for the mother to notice that the limbs are not exactly alike. Of course, the x-ray is always conclusive in any case where congenital dislocation of the hip is suspected. It is desired, therefore, that physicians be on the lookout for this condition in infants before they begin to walk. In any such case I shall be very glad to cooperate with the home doctor in determining the condition and in suggesting treatment.

This method will mark a great step in advance in the care of these patients and will be of interest to all those who are concerned with the care of such children.

—H. Winnett Orr, M. D.

THE DOCTOR'S LAMENT

Last night when others were at rest
I rode about, and did my best
To save some patients called by fate,
From traveling through the Golden Gate.
This morning when the news I spied,
I thought they might as well have died:
"Two Hundred Injured in a Wreck",
"Man Falls, Sustains a Broken Neck",
"Two Drown While Rocking a Canoe",
"Grade Crossing Murders Twenty-two",
"Five Killed by Falling Airplane",
"Three Shot by Moron, Now Insane",
"Gas Blast Takes Lives of Twenty-three",
"Two Die 'Neath Falling Apple Tree".
All night I toiled to save one life,
And millions die in useless strife.
What can it help to make one well,
While thousands hearken to death's knell?
What boots my little recompense?
Why can't the world have common sense?

—Hygeia.

THE PHYSICIAN

His stethoscope to beating heart,
Percussion over lung,
Blood pressure, pulse and temperature,
A brief view of your tongue,
A question here, a symptom there
Make diagnosis plain;
With potion, powder, salve and pill,
He thwarts the Reaper's game.

—Margaret H. Florine, R. N

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Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

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DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

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PAUPERIZING THE MINISTRY

What should be the attitude of the medical profession toward the ministers in reference to medical and surgical service rendered to them?

In the days of the missionary preacher and pound surprise parties and the like for the minister's benefit, free medical and surgical service was granted as a matter of course and was the doctor's contribution to the cause of religion. In the evolution of the last several decades the minister has become a fairly well salaried person, bearing favorable comparison in this respect to other callings—county officers, school heads, bank executives—all of whom are expected to pay their bills for medical service at par value.

The needs of church organizations of the present have impelled them to enlist the financial aid of physicians everywhere, the net result of which is double taxation.

The minister is not to blame for taking what is forced upon him. The church needs the financial assistance of every one in every community. The doctor is not to blame for giving half-hearted financial assistance to the church, when he is contributing to the support of the ministry in another way.

It is the system that is wrong.

There is no quarrel between the clergy and the physician. Most ministers are willing to pay the physician. The doctor is willing to support the church right royally, if he can but throw off the custom begotten by our ancestors.

There are physicians who charge the minister half the usual fee for service rendered, which is a move in the right direction—even if but half right. There are ministers who feel that free medical service is not only due them, but is not worth a word of thanks after rendered. Happily this class is not numerous. There are ministers of independence of character and of business sense who see the justice of a doctor's fee and insist on paying.

The ministry should not be pauperized and should resent pauperization. The doctor should assert his right to compensation for service rendered.

DOING THINGS

Those interested in medical organization take a measure of pride in the constructive work of the organized units of the state. The Omaha-Douglas County Medical Society is one of the units doing things. Recently arrangements were made by the educational committee to create a speaker's bureau and make it function in a smooth and orderly manner and a schedule of topics to be discussed by the speakers has been arranged. The following will give an idea of the plan outlined:

"1. Members of the Omaha-Douglas County Medical Society whose addresses have been authorized by the educational committee shall constitute the speakers' bureau of the Omaha-Douglas County Medical Society.

"2. An outline of any proposed addresses shall be presented to the educational committee for approval, such outlines to consist of between two hundred and two hundred and fifty words.

"3. The subject matter of these addresses is to consist of scientific information of interest to the lay public and is to be impersonally presented. In general, controversial matters must be avoided.

"4. Talks authorized by the educational committee may be prefaced by a statement to that effect."

The topics to be discussed include under Infancy, 9; School Age, 10; Adolescence, Boys, 8; Adolescence, Girls, 4; Girlhood to Womanhood, 6; Adult Life, Men, 4; Adult Life, Women, 9; General topics, 27.

THE HASTINGS MEETING

The climax in the activities of the State Medical Association for 1928 will be reached in the annual meeting in May. This meeting must be a success in its scientific features, in the business done, and in the get-together or social activities, or most of the value of the year's work is lost.

This year, the Nebraska State Medical Association departs from precedent to meet in one of the smaller cities of the state. Whether this is a wise move remains to be seen. Present indications, however, are for one of the best meetings ever held. The program committee began its work very early, and had a program of unusual interest arranged fully one month earlier than usual. There are single features of this program which should be enough to attract medical men from the far corners of the state.

Hastings is one of the beautiful plains cities of Nebraska. Its people generally, and its medical fraternity especially, are ready to give us an enthusiastic welcome. Large medical gatherings do not come frequently and Hastings will make the best of this opportunity. There need be no fear of shortage of accommodations. Our entire registration at Lincoln last year was about four hundred. Only a small part of this number was present at any one time, but we are assured that if four hundred physicians should ask for beds in the hotels of Hastings during our meeting, they would be accommodated.

A splendid meeting place is provided by the municipal auditorium. This building has a seating capacity of a thousand and has separate meeting places for the House of Delegates, the Nominating committee, and the Board of Councilors.

If this meeting does not fully measure up to standard, it will be because of the psychology of the situation. Handicaps are imaginary rather than real.

—B. R. McGrath, President.

THE SIOUX VALLEY EYE AND EAR ACADEMY AT THE FONTENELLE

The annual meeting of the Sioux Valley Eye and Ear Academy was held at the Hotel Fontenelle, February 15. This society, composed of men limiting their practice to disease of the eye, ear, nose and throat in the states of Nebraska, Iowa, and South Dakota, holds meetings in Omaha and Sioux City on alternate years. This year about sixty men attended, and participated in a very interesting meeting. The morning session was devoted to dry clinics and presentation of cases by local members, and to a demonstration on animal eyes of his method of removing corneal scars by Dr. Meyer Wiener of St. Louis. The method is designed to replace more complicated and often unsuccessful procedures of corneal transplantation, and consists of dissection of the cornea in a plane beneath that of the scar, where this is possible. It is simple, and while some cases are unsuitable for it, has permitted Dr. Wiener to restore vision in a number of cases sufficient to allow inmates of institutions for the blind to resume normal occupations. The cases presented included results of squint operations in children, malignant growth of the larynx, Mooren's ulcer of the cornea, orbital reconstruction, gold impregnation of corneal scar, Parinaud's conjunctivitis, interstitial keratitis treated by dionin, mastoid operation in which the wound was closed and treated by Carrel-Dakin solution, and plastic restoration of the nose.

A luncheon was given by local members to the Academy, following which the scientific program was held. The medical treatment of sinusitis, especially the treatment by lipiodol replacement and suction was discussed by Dr. Waldron R. Cassidy, and the Surgical Treatment was summarized by Dr. Ray Knode, who stressed individualization of cases and careful selection of the proper procedure of each case. Dr. Anderson of the Mayo Clinic reported his results with the Lynch operation for frontal sinusitis. These papers were liberally discussed. Dr. Meyer Wiener of St. Louis described an original method of correcting squint caused by paralysis of the third nerve, which consists of transplanting the superior oblique muscle to a location just above the insertion of the internal rectus. This had been suggested before, but these two cases are the first in which the procedure has been carried out. Dr. C. S. O'Brien, Professor of Ophthalmology in the University of Iowa, gave a moving picture demonstration of methods of nerve-blocking for operations about the eye. This was the clearest demonstration with moving pictures which your reporter has ever seen, due apparently to the demonstrator's control of his own machine, which could be stopped whenever he wished to emphasize a point.

Following the annual banquet in the evening, Dr. Thomas Carmody of Denver showed numerous lantern slides of his cases of tumors of the mouth and face, in which he has had an unusually wide experience. The following morning operative clinics were held at several local hospitals for the visiting members. The meeting was under the chairmanship of Dr. R. A. Kelly of Mitchell, South Dakota, with Dr. F. H. Roost of Sioux City as Secretary. Officers elected for the ensuing year were Dr. Sanford R. Gifford, Omaha, president; Dr. J. B. Naftzger of Sioux City, vice president; and Dr. F. H. Roost, secretary-treasurer.

—Sanford Gifford.

PRECEPTORSHIPS IN MODERN MEDICAL EDUCATION

Forty years ago a Preceptorship formed a major part of a medical education and every layman knew the meaning of the term. "Yesterday" its usage was so near extinct that if you asked even a medical student its meaning the chances were that he did not know unless he successfully drew upon his fund of knowledge of ancient language for its derivation. Today we see the pendulum swinging back and the term and the practice as well, is returning to common usage.

At a recent A. M. A. Council meeting on Medical Education, Bardeen of Wisconsin University discussed Modern Preceptorships. In order to understand this return swing of the pendulum one must review this most remarkable advance of medical education in the past three or four decades. It is conceded to be the greatest advance in any field of modern education. Going back about four or five decades one finds the Preceptor providing all of the practical instruction and most of the guidance in book work. Then so-called medical schools were organized where a course of lectures was given. These came to have such commercial value, directly and indirectly, that by two and one-half decades ago there were 166 schools graduating 5,700 doctors annually and the preceptor had about disappeared. Then came the standardization work of the A. M. A. with Flexner's survey of medical schools and the rest of that remarkable reorganization. The resultant rating and classification brought about many consolidations, many closures, and a general unprofitableness of medical schools from a commercial view point. At this point affiliation with great teaching universities and colleges was sought and obtained, with full time professors being added in more and more departments, until the complete removal of the teaching doctor or practitioner was threatened. Full time professors of surgery and medicine are still talked of and used in some places but the pendulum has certainly begun to swing back. Medical teaching not only cannot be taken out of the hands of the practicing specialists and clincians but the recent appearance of the term "Modern Preceptorship" seems to indicate that even the general practitioner has something worth while to teach about the art of the Practice of Medicine.

Bardeen's subject related to the value of associate teaching centers in clinical teaching. The Wisconsin University has adopted a plan of sending students to certain carefully selected hospitals and groups of practicing doctors for the purpose of actual practice experience. A review of their reports to Dean Bardeen of the work and experiences was most interesting. Many believed it was the most interesting and profitable three months of their entire four years.

But the preceptorship was profitable not alone to the medical student. It was most helpful also to those doctors serving as preceptors. These senior students had a wonderful fund of scientific medical knowledge but lacked a little practical ability to draw upon it. The preceptor could help do this and incidentally add materially to his own fund of information. The senior student also knew how to get quickly information from the literature which they both lacked and again a mutual benefit.

It is needless to say that the patient whose case was under their joint consideration profited accordingly.

A further proposal relating to this modern preceptorship was to extend these same services to isolated general practitioners of near-by communities who might feel the need of such helpful contact. It was to be arranged at such times as the preceptors were not busy with senior medical students and at such times as the isolated doctor could arrange a week away from his own busy practice.

In this return swing of the pendulum toward preceptorship we see not only history repeating itself, and another aid to medical education, but also something of a return of the dignity and honor so justly due the general practice man, which for a decade or more has seemed to be on the wane.

—J. S. Welch.

THE COLLEGE OF PHYSICIANS AT NEW ORLEANS

The twelfth annual meeting of the American College of Physicians, held at New Orleans, March 6th to 9th, was the largest and most successful meeting in the history of that organization. About nine hundred fellows and guests attended, and among them were included most of the prominent names in Internal Medicine in the United States, Canada, and Central America. Afternoons were occupied by clinical sessions at the six large hospitals of the city. The medical department of Tulane University afforded excellent opportunity for clinical work. Morning sessions were taken up by the reading of papers from all over the country.

A great deal of interest was displayed in tropical medicine, especially since many men experienced in that work were present. A trip to the leper colony at Carville, Louisiana, was one of the interesting things on the program. It should be of interest to men practicing in Nebraska, that the fact was brought out that amebiasis is not confined to tropical regions, but that its incidence is fairly uniform throughout the United States.

Such a variety and wealth of subjects were discussed that it is impossible to give even a representative selection from them. Tuberculosis came in for a great deal of attention, and stress was laid on its early diagnosis and on the role played by allergy in its pathogenesis and treatment. Heart disease is demanding a larger and larger share of attention in these meetings as the years go on.

Holbrook, at the Touro Infirmary, presented some interesting work on the treatment of general paresis by inoculation with rat-bite fever instead of with malaria, on the ground that the former infection was never fatal, and is much easier to treat. Dr. Bettman of Cincinnati read a paper on Chronic Appendicitis from the Standpoint of the Internist, in which he used surgical statistics to cast considerable doubt upon the existence of such a thing as chronic appendicitis as a clinical disease, and especially as an indication for surgery. His paper attracted much attention, as well as causing considerable merry satisfaction.

The City of New Orleans welcomed and entertained the visitors with true Southern hospitality. The visiting ladies were especially well provided for, entertainments and trips about the city kept them busy while their husbands attended the professional meetings. The usual smoker on Tuesday evening, and the formal banquet on Thursday evening were the social events for the men.

The president for the ensuing year, taking the place of Dr. Smithies of Chicago, is Dr. Martin of Montreal. The president-elect, for 1929, is Dr. John H. Musser of New Orleans. The meeting place for 1929 has not yet been fixed, but the probability is strong that it will be Toronto.

—Miles J. Breuer.

BELLE DEWEY MEMORIAL WARD FOR CANCER

The Nebraska Methodist Hospital of Omaha has recently opened a ward for the care of women suffering from cancer. This has been made possible by the terms set forth in the bequest of Miss Belle Dewey who died of cancer some two years ago. She stipulated in her will that a certain sum of money should be used for the establishing of "a place for women suffering from cancer who cannot afford treatment". The ward will be known as "The Belle Dewey Memorial". It has been "established and will be maintained by the Hospital pursuant to the wishes of Belle Dewey as expressed in her last Will and Testament for the purpose of providing suitable medical treatment for women suffering with cancer". It will be an open unit and not reserved for members of the hospital staff. Any physician in good standing will be accorded the privileges of the ward and the use of the equipment of the hospital in the management of these cases. Patients unable to pay will have access to the x-ray department in diagnosis and treatment and radium will also be at their disposal.

It is to be hoped that this Memorial Ward is but the beginning of a larger opportunity for service to these needy patients. There is much activity throughout the country in the establishing of cancer clinics. The American Society for the Control of Cancer is fostering this movement and we find such clinics in many of the medical centers of the country.

—Palmer Findley.

EXERCISE IN OLD AGE

Lord Grey has recently announced his conviction that a man who holds a place in the British Government ought, in justice to himself and to his country, to take at least one hour's exercise a day in the open air. The Manchester Guardian quotes the other side, the judgment of Joseph Chamberlain who said the exercise necessary for a man in office was that involved in coming down stairs to breakfast and in going up again to bed. Harcourt, whose very active life in government service lasted till he was nearly eighty, insisted that physical exercise was the greatest enemy of mental and physical well-being. It will also be remembered that Senator William Evarts, who remained mentally active until his death at about 84, when asked how it was that he kept so well, replied that he did not know unless it was because he took so little exercise.

The writer has kept track of a number of men who have seemed to be physical marvels up to 65 or 70, but none of them has lived much longer. In fact, it seems certain that for a man to have to keep up a reputation for physical prowess after 60 is a decided liability. Long walks on the level or upon the down hill, if taken with great deliberation, are fairly safe. Even tennis, if played with a hopelessly inferior opponent, may be indulged in till well past 70. But danger begins whenever the spirit of competition enters in. For this reason it is much safer for old people to take their walks alone, or with one or two similarly minded and bodied companions. With a crowd, personal vanity easily leads to over-exertion in the attempt to keep up. The ideally safe exercise for old folks is to ride up in the elevator of a tall building and walk down, repeating the procedure *ad lib.*

Finally, in favor of active physical exercise for those of 65 or more who want to die with their boots on, it can be said that it provides a very certain and quite respectable exit from the stage.

—**H. Gifford.**

MATERNAL MORTALITY IN OMAHA

Year	Total No. of Deliveries or Total Births	Total No. Deaths All Women 15-47 Year Age Group	Puerperal Deaths	Maternal Death Rate Per 1000 Deliveries	Relationship of Puerperal Group to Other Causes of Death in Age Limit Group
1921	5044	326	44	8.7	Puerperal 1st Place
1922	4819	375	42	8.9	" 3rd "
1923	4874	355	33	6.7	" 4th "
1924	5415	319	17	3.1	" 6th "
1925	4994	361	36	7.2	" 4th "
1926	4472	360	40	8.9	" 4th "
1927	4130	357	32	7.7	" 4th "

A listing of the causes of death in this series is as follows:

	1921	1922	1923	1924	1925	1926	1927
1	*PUERPERAL GROUP 44	Cardiac Dis. 43	Cardiac 45	Cardiac 60	Tuberculosis 62	Postoperative [illegible]	Postoperative 75
2	Tuberculosis 40	Tuberculosis 43	Tuberculosis 40	Tuberculosis 38	Cardiac 54	Pulmonary 45 Cardiac, each	Tuberculosis 36
3	Cardiac 33	PUERPERAL GROUP 42	Pulmonary Affections 36	Pulmonary Affections 27	Postoperative 42	Tuberculosis 43	Cancer 34
4	Peritonitis 29	Pulmonary Diseases 36	*PUERPERAL GROUP 33	Cancer 26	*PUERPERAL GROUP 36	*PUERPERAL GROUP 40	*PUERPERAL GROUP 32
5	Cancer 24	Cerebral Diseases 31	Postoperative 30	Postoperative 23	Pulmonary 32	Cancer 35	Nephritis 23
6	Postoperative 24	Postoperative 28	Cancer 27	*PUERPERAL GROUP 17	Accidental 32	Nephritis 13	Septicemia 16
7		Cancer 27	Peritonitis 27		Cancer 29		Pulmonary 15
	Total No. of Deaths from All Causes 326	375	355	319	361	360	357

These tables are again called to your attention, and we are pleased to show that in Omaha the maternal death rate per 1000 deliveries, is decreasing. Our death rate is 7.7 per 1000 deliveries in 1927, which is the average found throughout the United States; 6-9 maternal deaths per 1000 births.

It should also be mentioned that through the agency of the Children's Bureau, U. S. Department of Labor, under the auspices of the Maternity and Infancy Act, a maternal mortality study is now being made in Nebraska. Dr. Herman M. Jahr of Omaha is gathering the statistics in Omaha and vicinity; and Dr. MaBelle True of Lincoln, is studying the outstate cases. The first step is to secure accurate and complete statistical information regarding the nature and extent of the problem.

Deaths from puerperal causes include all those of which pregnancy and confinement are the only, or the decisive cause. For example, they include deaths from hemorrhage and from other "accidents" of pregnancy; and from puerperal convulsions, or the toxemias of pregnancy, and from puerperal infection. According to a Children's Bureau publication No. 158 by Robert Morse Woodbury — entitled "Maternal Mortality", they do not include deaths resulting from accidents sustained by pregnant women if the accidents themselves were sufficient to cause death, nor do they include deaths resulting from criminal abortion.

Dr. Woodbury's report is a pamphlet of 163 pages. He has made an extensive statistical study and analysis of the factors entering into puerperal mortality, having brought together the available statistical material of this country and of foreign countries. The significance of these facts is of national importance, due to the loss of the lives of many women who are in their prime, and the associated loss of infant lives. The author states that a considerable proportion of infant deaths under one year of age occur during the first month of life, and approximately 100,000 infants die annually; and concludes that the same measures that should be instituted to save the lives of mothers will also contribute toward the saving of these fetal lives. The U. S. still loses each year nearly 20,000 women, from the complications of pregnancy and the accidents of labor. Probably 85 per cent of these deaths are preventable.

Dr. Woodbury makes certain recommendations for the prevention of maternal mortality and outlines the following program:

1. Regulation of the practice of obstetrics, by requiring a license to practice from both physicians and midwives, by establishing minimum requirements for obtaining such a license, and by defining and prescribing penalties for malpractice.

2. Regulation of public and private hospitals and maternity homes through legal provisions governing the establishment of such institutions and requiring that they be licensed and subject to inspection.

3. Legislation for the control of venereal diseases, including the making of these diseases reportable.

4. Requiring that puerperal septicemia be made reportable, as is now the case in a number of states.

5. Provision through governmental or public sources of better facilities for training medical and nursing personnel and more adequate clinics, hospitals and maternity homes.

6. Subsidies in aid of state or local activities by Federal or State governments, as in the United States during the past four years through the Maternity and Infancy Act.

7. Educational work directed toward informing mothers of the need of adequate maternity care.

It is the purpose of the Joint Committee of Maternal Welfare to help to decrease this mortality.

As Dr. George W. Kosmak said at the Annual Session of the A. M. A. meeting in Washington, D. C., May 18, 1927, our high mortality figures are largely due to the high septic rate. In 1921, in the U. S. registration area, two fifths of all the deaths were due to septicemia; 6,057 out of 15,027, or 40%. But where does the high septic rate come from? This would be of interest to determine, and it seems to me that no better suggestion could be made than that this section on Obstetrics, Gynecology and Abdominal Surgery of the A. M. A. through its membership in the Joint Committee of Maternal Welfare, inaugurate and participate in a careful inquiry to determine if possible why pregnancy and labor are attended with such large risks in this country.

In Nebraska, we cannot get this information any easier than by lending our support to the maternal mortality survey now being conducted by the U. S. Children's Bureau.

—Earl C. Sage, State Leader.

EDITORIAL PARAGRAPHS

A number of cases of Malta fever are reported to have occurred in Iowa.

Attending medical meetings is good business. It makes a better, broader and happier man.

Sir Arthur Conan Doyle, famous novelist, is a physician, graduate of Edinburgh University.

Doctor: Take the Journal home to your wife. She will appreciate it, whether you do or not.

The first hospital in America was erected before 1524 in Mexico City by Cortes. It is still in existence.

At the beginning of the Revolutionary War we are said to have had one medical book by an American author, three reprints and about twenty pamphlets.

Dr. John M. Dodson is said to have figured out that doctors live the longest average lives, and some one rises to ask whether it is because they take their own medicine.

A generation ago a Chinese quack named "Dr. C. Gee Woo" operated in Omaha. "C. Gee Woo" was recently fined $500 in Portland, Oregon, for practicing without a license.

A friendly little school girl told her teacher: "We are going to have a baby in vacation—but it is a secret; daddy don't know anything about it and we are not going to tell him".

Wonder if it is not just a little bit disgraceful for a medical man who should know enough to have his family immunized, to have diphtheria break out among the children of his own family?

Our most recent ex-president, Dr. H. E. Potter, Fairbury, is a candidate for delegate to the Republican National Convention. It is a hopeful sign that some of our foremost medical men take an interest in politics.

Herodotus, 500 years before Christ, describes Egypt, notwithstanding its fine climate, as being full of medical practitioners, who were all "specialists". The ophthalmic surgeons were celebrated and practiced at the court of Cyrus.

Dr. Harriet McGraw, practicing physician at Tryon, is made the heroine of a feature story in the March *American Magazine*. The web of the story is wound arount the fact, as a nucleus, that she is the only medical practitioner in McPherson county.

The New York Academy of Medicine announces an Annual Graduate Fortnight to study the degenerative diseases of old age, October 1 to 13. It is intended to inaugurate a form of medical education unique in this country. No fees are charged. The work will be given forenoon, afternoon and evening.

It is interesting to note that a number of physicians in Nebraska have political aspirations. It is reported that one has filed for Congress and several for each branch of the legislature. The medical profession must take an active interest in state and national politics if we ever hope to get the recognition to which we are entitled.

The February *Woman's Journal* contains an article "The Nurse on Horseback", giving a vivid account of the experiences of the nurse-midwife in the backward mountain districts of Kentucky where there is but one physician in a county of ten thousand people and where, under several endowments, nurses with special training in obstetrics are depended on to take care of most of the expectant mothers.

Looking toward the annual meeting at Hastings in May the program committee has promises from the following out of state notables to attend and take places on the program: Dr. Gilbert J. Thomas, Nicollet Clinic, Minneapolis; Dr. Dean Lewis, John Hopkins Hospital, Baltimore, Maryland; Dr. Wilbur Post, University of Chicago Medical College, Chicago, Ill.; Dr. W. H. Frost, detailed from Surgeon General's office, Washington, D. C.

The *Lincoln State Journal* of February 2, 1928, under Daily Drift by Bix, contains the following: "Under our rather loose-jointed system of government it is considered quite the proper thing for one legislature to undo the constructive work of its honorable predecessor. It is rather suspected that next winter will see an effort made to repeal the basic science law under which people who crave to apply the healing art are required to have at least a rudimentary knowledge of man's anatomical structure, the function of the vital organs, and enough of pathology to be able to differentiate between mulligrubs and mumps. Let well enough alone."

OXYTOCIN AND VASOPRESSIN IN PITUITRIN

Editor, Nebraska State Medical Journal:

On the last day of 1927 the editor of the Journal of the Americal Chemical Society received for publication a manuscript describing the identification and separation of two posterior pituitary hormones. On February 4, 1928, the paper was published; reprints of it have just now reached me, and I am losing no time in seeing to it that you get one. Hence the enclosure.

Perhaps this is the first time we have ever sent you a reprint. I am not certain as to that. But of this there can be no doubt—that this piece of research work led to one of the most important endocrine chemical discoveries made since Adrenalin was brought out many years ago. The editor of the Journal of the American Medical Association evidently saw the article in the chemical journal before the reprints came out, and made it the subject of his leading editorial in the issue for February 25.

You may or may not decide to comment in like fashion on the paper, but if you do I feel confident that you will find three points worthy of special emphasis: first, that the work of Kamm and his associates has effectively and for all time refuted the contention of some of the most prominent biochemists in the world that there was only one posterior pituitary hormone; second, that the original (P. D. & Co.) pituitary extract, Pituitrin, has always been assayed by the double method—oxytocic and pressor—and that now the stand of this firm has been fully justified; and third, that the isolation of the two principles, alpha-hypophamine (oxytocin) and beta-hypophamine (vasopressin), paves the way for physiologist pharmacologist and clinician to illuminate hitherto obscure points in function, in pathogenesis, and in therapeutics.

Yours very truly,
Harry B. Mason,
Assistant to President.

FIRST INTERNATIONAL CONGRESS OF OTO-RHINO-LARYNGOLOGY

Eye, ear, nose and throat doctors of the world will meet for the first time at the First International Congress of the Oto-Rhino-Laryngological Society, to be held in Copenhagen, Denmark, July 29 to August 1 That was the announcement made today by the American Committee of the Society, 25 Broadway, New York.

More than seventy-five specialists will represent the United States at the Congress. These doctors will also spend some time visiting at various large cities in France, England, Germany, Norway and Sweden. Clinical discussions will be held in these countries with European doctors presiding.

The Congress will concern itself with questions relating to the treatment of the many maladies, injuries and infections of the eye, ear, nose and throat. It has been reported from abroad that very successful methods have been found for sinus trouble and middle ear deafness.

CHICAGO'S GREATEST RADIOLOGICAL CONVENTION

The Radiological Society of North America will hold its 14th Annual Convention in Chicago, December 3rd to 7th inclusive, 1928. The Drake Hotel, Lake Shore Drive and North Michigan Avenue has been selected as the headquarters. We are assured of ample accommodations at exceptionally reasonable rates and of the best and most efficient service.

Make your plans for this year include Chicago's greatest Radiological Convention. Every physician who is interested in this branch of Diagnosis and Therapy is welcome.

There are no Registration fees, no additional expense. Plans are under way now to secure reduced transportation rates.

The Ladies' Local Reception Committee is making plans for the entertainment of all visiting ladies. These plans include theater parties, luncheons, shopping tours and sight seeing trips, with generous hospitality extended to all visitors.

Much attention is being given to arranging for Scientific and Commercial Exhibits. These exhibits will afford a Post Graduate course of instruction in nearly every branch of Medical Science. Clinics covering Radiological problems as well as other branches of Medicine will be given every day during the session. We are assured by the Program Committee of an instructive and interesting scientific session and a program upon which will appear representative men from all sections of this country and Europe.

Start to make your plans to attend now. Many papers on General Diagnosis and Therapy will be read and discussed during the Scientific Session.

Bring the wife and family to Chicago, the hub of the United States, with theaters, parks, boulevards and shopping districts second to none.

The location of our headquarters at the Drake Hotel will be found especially convenient. Therefore, make your plans to attend this meeting now. You cannot afford to miss this 14th Annual Session of the Radiological Society, at Chicago. Reservations should be made early. Communicate with Chairman of hotels and lodgings committee, T. J. Ronayne, M. D., West Suburban Hospital, Chicago, Illinois, or direct with Drake Hotel, Chicago, Ill.

—Publicity Committee.

WESTERN ASSOCIATION OF PHYSICAL THERAPY

The tenth annual meeting of this Association will be held in Kansas City, under the presidency of J. E. G. Waddington, on Friday and Saturday, April 20 and 21. Headquarters and meeting place, Hotel President. The Good-fellowship Dinner will be given on Friday evening, Dr. Wm. Benham Snow, dean of the Physical Therapists, officiating as toastmaster. Among those who will respond are Drs. Curran Pope, Frank Walke, Kerwin Kinard, Ralph W. Holbrook, and others. The Western School of Physical Therapy will precede the session of the Association, beginning Monday, April 16. The exhibit will occupy ten rooms, and daily demonstrations of equipment will be given.

For program, address Dr. C. W. Fassett, Secretary, Kansas City, Mo.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY

In this issue appears the preliminary announcement of the Kansas City Southwest Clinical Society for its Annual Fall Conference to be held in Kansas City, Mo., October 9th to 11th, inclusive.

It is expected that the coming meeting will be more widely attended than any of the former successful meetings. A departure of interest to the profession of the Southwest is that the program for this meeting will consist mainly of symposia and clinical programs arranged especially for the general practitioner. All special subjects will be correlated with this idea in mind. In fact the entire program will approximate a practical post-graduate course in those problems of every day interest.

THE SOCIETIES

Regular meeting of the **Omaha-Douglas County Medical Society,** February 28, 1928. Meeting called to order by President Overgaard.

The first paper of the program was by Dr. Willis H. Taylor on "Intermediate Cervical Repair," which was discussed by Drs. Sage and Moon.

The second paper was by Dr. Frank P. Murphy on Abruptio Placentae. Discussion was opened by Dr. Charles F. Moon. Dr. R. H. Luikart also participated in the discussion.

Dr. Frank M. Conlin presented the third paper of the evening on "Glycosuria, Hyperthyroidism and Diabetes Mellitus." This was well illustrated by charts and reports of two cases of adenoma and hyperthyroidism and glycosuria, two cases of exophthalmic goitre and glycosuria, and one case of diabetes, diabetic gangrene and exophthalmic goitre. This paper was discussed by Drs. Morgulis and A. A. Johnson.

The result of the election for Council Members was announced, as follows:

For three years: Drs. S. R. Gifford and Herbert Davis.

For two years: Dr. E. C. Henry.

For one year: Dr. Frederick J. Wearne.

Regular meeting of the **Omaha-Douglas County Medical Society,** March 13, 1928, called to order by President Overgaard.

Secretary Sage called attention to the portraits of four past presidents of the Society who are also past presidents of the Nebraska State Medical Society and who have recently been made Bachelor of Law by the Nebraska State University, Drs. A. F. Jonas, W. O. Bridges, and J. E. Summers, and Harold Gifford.

The first address of the evening was by Dr. William N. Anderson, who spoke on "The National Campaign for the Early Diagnosis of Tuberculosis."

Dr. Herman M. Jahr presented the next paper, "The Early Diagnosis of Tuberculosis in Children," and Dr. John F. Allen talked on "The Early Diagnosis of Tuberculosis in Adults." Motion pictures were shown illustrating this talk.

Discussion of all three papers was lead by Dr. Francis W. Heagey, Dr. C. B. Peirce also participating.

The Madison Five-Counties Medical Society had an after dinner meeting at the hotel Norfolk, February 22, with 37 doctors and guests present.

Dr. Victor E. Levine, professor of biological chemistry, Creighton Medical College, spoke on Diet in Cardiac Decompensation. Decompensation may be divided into two general classes—infectious and malnutritious. He showed that the heart lost or gained weight directly proportional to the loss or gain of the body weight. Therefore acute or chronic infections, malnutrition or obesity weakens the heart. Sugar in any form is the best food for the body in decompensation. The heart is second in storage of glycogen, the liver being first. Sugar has a high caloric value and is readily taken care of by the body. It is also a good diuretic. In the diet it is necessary to have the calcium-potassium equilibrium as well as the acid-alkali. Anoxemia should be prevented if possible as the lack of oxygen in the blood causes an increase of the pulse rate. It has been found that digitalis and adrenalin give much better results when the hydrogen-ion concentration of the blood is toward the alkaline side rather than the acid side. In his talk on Anemias, Dr. Levine brought out the fact that liver was of value only in the treatment of pernicious anemia. In the different diets discussed he laid particular stress on the anemia-preventive factor, which should be added to the diets of all anemic cases. Calf and beef liver have the most of this substance, kidney, egg yolk, spinach, lettuce, prunes and raisins following. Fish liver has no anemia-preventive power whatsoever.

A joint meeting of the **Otoe County Medical Society** and the dental society occurred at the Frontier Hotel, February 13.

Dr. J. E. Summers of Omaha spoke on "Clinical Significance of Pulse and Temperature," and Dr. W. A. Killins of Omaha spoke on "Newer Developments in the Treatment of Heart Disease." Dr. A. N. Smith of Nebraska City, spoke on "Pulpless Teeth." Discussions followed each paper.

The regular meeting of the **Ninth Councilor District Medical Society** was held at Broken Bow, February 14, with twenty-two in attendance.

The district comprises the counties of Dawson, Buffalo, Hall, Valley, Loup and Custer. At the afternoon session, the following program was given: "The Relations of Internal Medicine to the Practice of Medicine," F. W. Heagey, Omaha; "Some Diseases and Conditions of the Female Pelvis," E. A. Watson, Grand Island, and "Thyroglossal Duct," P. H. J. Carothers, Broken Bow.

A banquet, attended by the members and their wives and friends preceded the evening session, at which the following program was presented: "Our State Program," B. R. McGrath, Grand Island; "Councillor District Affairs," R. D. Bryson, Callaway, and "Early History of Medicine in Nebraska," C. L. Mullins, Broken Bow.

Kearney was chosen as the place to hold the next meeting, on October 9th.

The **Scotts Bluff County Medical Society** held its regular monthly meeting, at the Methodist hospital in Scottsbluff, February 9. A good attendance and a splendid program is reported. Dr. E. M. Farquhar, of Minatare was the principal speaker, giving an interesting address upon the subject of "Conservative Obstetrics."

After the program was completed Dr. G. W. Pughsley of Bayard, president of the organization took all those present to the Broadway cafe, where they were his guests at a delightful dinner. The wives of the doctors were the guests of Mrs. E. F. Zoerb during the evening.

HUMAN INTEREST TALES

A new Maternity hospital has been opened at Fremont.

Dr. J. E. Warrick, Valentine, has opened a private hospital.

Dr. Chas. B. Edwards has moved from Overton to Kearney.

A movement is on foot to establish a hospital at College View.

Dr. Donald Owen, Omaha, underwent a mastoidectomy recently.

Dr. A. M. Pederson formerly of Ruskin, has located at Avoca, Iowa.

Dr. N. H. Rasmussen, Scottsbluff, is about to build a private hospital.

Dean J. J. Keegan, Omaha, and wife rejoice over the arrival of a son.

Dr. C. J. Verges, Norfolk, submitted to an appendectomy in February.

Dr. V. V. Vance, Peru, recently underwent an appendectomy in Omaha.

Dr. E. L. Rolph, Kimball, was reported very ill with pneumonia a month ago.

Dr. Kirby McGrew, former Ord boy, has located at Ord to practice medicine.

The marriage of Dr. Floyd Rogers, and Miss Helen Cook, Lincoln, is announced.

Dr. H. B. Morton, late of Doniphan, has accepted a fellowship to the Mayo clinic.

Dr. J. W. Duncan, Omaha, has returned from an eight months period of study in Europe.

Dr. E. F. Brewer, late of Colorado, has become associated with Dr. J. A. Peters, Springfield.

Dr. Eric Pfeiffer, recent University of Nebraska College of Medicine graduate, has located at Steele City.

Dr. Paul Gillespie, formerly of Fullerton, after a period of postgraduate study, has located at Grand Island.

Dr. E. C. McAleer, and Dr. A. J. Courshon, Norfolk, have become associated in the practice of medicine and surgery.

Dr. C. W. Weeks, Ord, suffered serious injuries in an auto accident on a night drive, landing him in a ditch, early in March.

Dr. F. J. Wearne, Omaha, attended the American College of Physicians meeting at New Orleans and also made a trip to Havana.

Dr. A. M. Sonneland, Norfolk, gave a lecture on diphtheria immunization before the local Parent-Teachers association recently.

Dr. V. E. Berchtold, for some months in practice in Norfolk, has been compelled to seek a southern location on account of his health.

Dr. J. E. Meyer, and Dr. W. R. Neumarker, Columbus, attended the meeting of the American College of Physicians at New Orleans last month.

Dr. A. S. Pinto, Omaha and Dr. J. M. Huermann, Benson, have purchased a controlling interest in the Farmer's and Merchant's Bank at Benson.

Dr. R. E. Sawyer, formerly of Omaha, has located at Doniphan in succession to Dr. H. B. Morton who has accepted a fellowship at the Mayo clinic.

Dr. and Mrs. Floyd Clarke, Omaha, took a pleasure trip to Havana and returning attended the meeting of the American College of Physicians at New Orleans.

Dr. Arthur L. Smith, Lincoln, attended the meetings of the American Cardiological Society and the American College of Physicians at New Orleans last month.

Fellowships in the American College of Physicians were conferred upon Dr. W. W. Arrasmith, Grand Island, and Dr. A. E. Hoff, North Bend, at the recent convocation at New Orleans.

Dr. Gilbert J. Thomas, professor of the University of Minnesota College of Medicine, Minneapolis, spoke on Tuberculosis of the Kidney at a meeting of the Lancaster County Medical society, March 6.

Dr. Olga Stastny, Omaha, spoke before a joint meeting of the North Bend Woman's club and Community club, February 22, on her World War experiences in reconstruction and readjustment work and gave an account from her experiences among the refugees of Macronese Island.

ANNUAL MEETING, HASTINGS, MAY15, 16, 17

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SOME FEEDING PROBLEMS DURING THE FIRST YEAR OF LIFE*

HERMAN M. JAHR, M. D.,
Omaha, Nebr.

The feeding problem babies that I wish to discuss with you today are those which come to our attention daily and which at times travel from one physician to the other in search of a wonder cure. The first doctor, though well equipped in the matter of knowledge and kindliness, somehow does not suffice. The second fortified by both the above qualities, plus a patient disposition, may do for a while until his or the mother's patience gives out and the third and fourth are tried with the same results. The mother now in a state of confusion accidently or purposely hits upon the bright pages of our journalistic accomplishments and before long concludes that her baby cries not only for castoria, but also for a number of other well illustrated preparations that offer a cure for the ills which the said baby has or does not have.

1. THE COLICKY BREAST FED BABY.

First, let us consider the breast fed well baby, gaining in weight and length, yet who always cries, is always distended and always constipated. I say always only to quote the mother plus all other members of the family who accompany the youngster to our office or clinic. A careful history will almost invariably reveal an irregular feeding schedule. These babies are usually over fed. The average mother considers crying in her baby a sign of hunger and usually hurries to the crib to appease the crying infant by offering the breast. The infant is truly quieted for a time, only to resume proceedings with the same expectant victory.

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*Read before the Merrick County Medical Society at Central City, Nebraska, January 11th, 1928.

Thus the stomach is overloaded, the rest intervals become shorter, the crying periods longer. The more the baby cries, the more he is nursed, and the more he nurses, the more he cries. I have seen babies of this type, who as nearly as I could make out, have been nursed on the average of twelve to fifteen times daily, literally sucking away not only the milk, but indeed the very health of the mother.

These babies are usually weaned far prematurely, the mother attributing the colicky condition to unhealthy qualities of her milk. Unfortunately, it is only too often that lactation in these cases is discontinued on the advice of an impatient physician.

2. THE HUNGRY BREAST FED BABY.

There is another type of infant who cries almost continuously, but for a reason which justifies its restlessness,—insufficient food. An infant who does not ingest enough food for a gain of five to six ounces a week is entitled to help from the bottle. A warning should be sounded that whenever we advise a complemental feeding we are more or less estranging the infant from the breast. A complemental feeding in early infancy, it should be stressed, is only a temporary measure to give the baby more strength so he may be able to afford greater stimulation to the mother's breasts.

3. THE BOTTLE FED BABY.

The third group comprises the class of babies whose mothers do not have any milk to speak of and who soon have to be entirely on the bottle. The well regulated and systematized feeding procedure causes but little trouble to the average infant. From the nature of conditions, it is rather simple to adapt the quality of the milk mixture to the need of the child. Bottle feeding problems, in my experience, are less difficult to solve than are those of the breast fed. Thus constipation is usually corrected with more or less promptness if the sugar or fats are increased in the formula. Simple diarrhoea may be checked by diminution of these elements and ingestion of barley water.

4. THE BABY WITH DEFINITE DIGESTIVE DISTURBANCES.

In the fourth group I would like to mention the baby who has definite feeding disturbances due to inability to digest its food. Here I include the infant who vomits its milk within one-half or one hour after its feeding. I mean genuine vomiting with actual loss in weight. It should be mentioned here that only a small percentage of babies fall into this class. From my association with the Clinic of the Newborn at the University of Nebraska, and the Infant Welfare Station together with a fair private practice among children, I must conclude that true vomiting in the baby whose feeding is well regulated, is quite uncommon. We do come across babies who regurgitate a good deal of their feeding and at times do not gain their desired weight in a given period of time, but these difficulties clear up soon after the feeding technique is explained or illustrated to the one in charge.

We should remember, of course, that pylorospasm and pyloric stenosis are met with occasionally, and these conditions call for definite management.

In this group let us then include babies who, though their feeding is well supervised, vomit their food, have diarrhoea alternating with constipation, lose weight, and give the general appearance of undernourishment as characterized by the older look, too dry or too moist a skin, flabby muscles and scanty adipose tissue.

The etiology of this condition is obscure, though to my mind, it is due to some anomaly in the gastro-intestinal tract, such as faulty contour of the stomach or some defective secreting system.

5. THE SPOILED BABY.

There is a fifth group of which I wish to speak, and which is found only too frequently in many of our so-called better families. It is the type of infant, who, in spite of our greatest efforts, continues to fret and cry and—yet gains weight. The mother or father, or both, are usually high strung. The mother, particularly, is worried about her baby, usually a groundless worry, but effective, nevertheless. The baby is distended, constipated, refuses his orange juice, cod liver oil, cries at all hours of the day, keeps the household awake all night; every one concerned with his welfare is worried and excited. The baby soon learns he is the ruler of the roost, and he is a harsh ruler at that, unmerciful with his subjects, wholly unmindful of their comfort. This is the typical spoiled baby, and though fat and healthy at this stage of his career soon develops into the frail child. Later, because of his whims and moods, likes and dislikes, he joins the huge class of the undernourished pre-school and school children which make up such a large percentage of our school population. These infants and children are the ones who make up a goodly percentage of our night calls, necessary at times, though usually on a false alarm. In view of their physical and sociological maladjustments they always or practically always suffer from some definite or indefinite ailment which they constantly use as a weapon against their elders in order to obtain what they want and when they want it.

MANAGEMENT

For the sake of clearness it was thought best to outline the management of these feeding problems in accordance with the various groups into which these problems were divided. It should be remembered that individualization of the case is as necessary as in all other realms of our practice. The physician should never forget the fact that he is dealing with a mother and her baby, and this attitude should be maintained throughout the time in which the child is under his care. Thus the child is more important than the colic or dyspepsia from which it may suffer, and the care of the mother is just as important as is the care of the child. This holds true of all cases regardless of the group of disorders in which the individual case may fit.

Every presidential address of every medical society mentions the need and importance of public education in the matter of health. Some of us do, and others do not take it seriously. In the case of proper child care there are no two ways about it. The mother must be enlightened on the importance of systematized procedure, or the child's condition will continue as a source of trouble. The mother must not only know what to do and how to do it, but our directions must be accompanied by a plausible reason for what she is told to do. For the sake of the confidence which we seek to gain, let us be dogmatic in our directions, but let us be sure that our dogma is justifiable in our own eyes and the eyes of our patients.

The Breast Fed Colicky Baby: The baby who is dyspeptic as a result of overfeeding usually improves on regular feeding schedule. However, to obtain regularity is not always a simple task, unless the mother is made to understand the reason for the advice. It is my custom to explain to the mother in some thing of this manner: The baby has a stomach capacity of, say, four ounces. (Age in months plus two). Now, it takes the stomach at least two hours to empty itself of a feeding. Then one hour's rest is needed for preparation of the next meal. If you pile one feeding on top of the other two things happen. The stomach either rejects the milk by vomiting or expels the undigested food into the intestine to set up trouble there. Usually both routes are used and we have the symptom complex: Vomiting, distention from gas, and diarrhoea. This explanation alone is in a good many instances sufficient to convert a worrying household with a crying infant into a happy baby in a happy home.

However, we are not always as fortunate as to clear up the condition so rapidly and so simply. In fact, the majority of mothers need much more elaborate advice than was just mentioned. We do not find many babies with dyspepsia who are fed regularly by the clock. And if we do, these are the infants who are weaned prematurely, not so much because the mother is tired of nursing her child, but rather because she begins to suspect her milk. This is particularly true of the mother with her first child. This is only to be expected if we consider the anxieties and fears encountered by the young parent. Gestation, delivery, and parenthood are new ventures with marked psychologic and sociologic changes necessarily imposed by the baby, for which changes the mother's preparations have been rather inadequate. It is no wonder then, that the young parents are constantly suspicious of the health of their fretful young arrival, especially when the mother is doing all she knows how to make her milk suit her offspring.

Here the management is almost entirely restricted to the welfare of the mother, and here also is where our ingenuity is at times taxed quite heavily. I have found that the average anxious young mother is not only willing but eager to nurse her baby providing she is aware of the advantages of breast milk over artificial feeding. In their eagerness for super-efficiency, nursing mothers not infrequently get the notion that they have to eat for two, load themselves with the richest foods on the menu, drink the rich products that the proprietary houses put out, and with it all seldom use their muscles to burn up more than a small percentage of their food intake. Another characteristic which we usually find in this type of mothers is that in spite of their scanty physical exertion they are always tired.

These women are usually cooperative and are always willing to follow out advice when they once see the rationale for our directions. I do not know whether milk makes milk. I do know that milk makes gas and if the mother tries to load herself up on a prescribed amount of milk the nauseating and distending sensation invariably does more harm than good. My mothers are advised to eat plenty of food, drink plenty of liquids of any kind they like and as much as is compatible with their own well-being. In addition I always find it a valuable asset for the mother to do a moderate amount of physical exercise and lie down to relax for at least one hour in the afternoon. The baby is to be nursed every three or four hours depending on his age and weight. In the large majority of cases both mother and her baby are cured of their anxiety and discomfort.

As to the *Second Group*, or the group where the young infant cries of hunger: Crying usually begins from a few minutes to an hour or two after nursing, depending on how much milk there was in the breast at the last feeding. A weak infant cannot usually exert enough stimulation on the breasts to increase the milk supply. If information is obtained that the breasts do not feel empty when the infant is through nursing, an effort should be made to stimulate the emptying by manual massage after each nursing and the milk given by bottle or dropper. If the breasts are known not to fill up in the three hour interval, the milk may at times be increased by advice to the mother on proper hygenic measures, such as plenty of wholesome food and drink, exercise and sufficient rest.

Only after these measures have been tried are we justified in prescribing an artificial complemental feeding. It should be reiterated that a complemental feeding always predisposes to premature weaning. There are several reasons for this: The mother finds that the baby is improving on the artificial formula and a false confidence is established in that bottle milk is just as good as breast milk. The baby in turn finds it easier to obtain milk through the rubber nipple than through the breast and in time refuses the breast entirely. The mother takes this as a sign that her milk lacks proper qualities or the baby would not refuse it. The complemental feeding is then increased coincident with a decrease in the breast secretion and before we know it the infant is entirely on a bottle, the milk from contended cows supplanting the secretion of a too credulous mother.

Whenever a formula is issued for an infant who does not have enough breast milk to thrive on, emphasis should be placed on the fact that this is only an emergency measure to help the infant through a period of comparative debility and that the bottle is to be discontinued as soon as is feasible with increasing efficiency in the lactating breast.

Now for the *Third Group*,—the infants who have to be bottle fed from the start: These children give us comparatively little trouble providing the feeding is well supervised. I find that about ninty-five per cent of the children who start out on the bottle get along nicely on a cow's milk mixture of milk, water and sugar. They usually gain from five to seven ounces per week on a calculated formula of one and one-half to two ounces per pound per twenty-four hours, the total quality of fluids being calculated from the months in age plus two, times the number of feedings per day. Children who do not thrive on this routine are discussed in the fourth group which follows.

The infants in *Fourth Group* are at times difficult of study, though with the exception of a few definite disorders, they yield to careful study: Lactic acid is our first resort and we are quite pleased with the results obtained in some of our difficult feeders. Then, in infants with insufficient size or acidity in the stomach, lactic acid milk offers a very good aid in enabling us to give higher concentrations and smaller quantities of fluid. The value of the effects of this as a curd reducer and its buffer action can be appreciated only by those who observe the marvellous changes that are elicited in the improved appearance of the undernourished infant.

Unfortunately, however, lactic acid milk is not by any means a cure-all for all feeding disturbances. Thus there is the baby who does not tolerate fats and may thrive on albumen milk. Some infants will not assimilate proteins, but will thrive on butter-fat-flour mixture. Others still will reject everything but the carbohydrate cereals. Each condition is a study in itself and I have not the time nor the ready knowledge to discuss in detail, at present.

I wish to say a few words on the spastic pylorus. We have been in the habit of regarding pylorospasm as a definite condition of rather frequent occurrence. In a series of about five hundred infants which I have observed in the past three years, I had occasion to use atropine in one case only. This is in a five months infant who is breast fed and who vomits after every nursing. This baby is now taking thick cereal feedings and is gaining in weight. I am inclined to believe that I am dealing with a pyloric stenosis which may yet go to the surgeon. Had he lost weight I should have referred him to surgery long ago. However, the boy is thriving and is under constant observation of a cooperative mother, so we do not worry.

The Spoiled Baby: This type of baby is a problem with which we are all acquainted and which is driving us to distraction. Here the baby is only of secondary importance when it comes to treatment. The mother, nay, the whole family, usually need management, and strict management at that if one's efforts are to meet with success. We see them in all social and economic classes and the routine adopted for one family is seldom applicable to the next.

The management of the spoiled baby is a question of mental hygiene training, not only of the infant, but indeed of all with whom he comes in contact. The success of our management here, more than anywhere else, depends on how much confidence the parents have in us. It hurts a mother to hear her young baby cry. And it is all but pleasant for a proud but tired father to listen to the screams of his son or daughter all night,—or what seems to him all night. It happens frequently that the parents make up their minds to let the child cry and thus break him of this undesirable habit, but alas, their morale and strength give out usually on the second occasion.

To forstall this weakness in the parents, it is necessary to explain to both parents, and where necessary to grandparents, the necessity for, and the lack of danger to the infant from crying. My instructions are as follows: When the baby begins to cry, see if there is any discomfort such as a wet diaper, or pressure from a crumpled sheet or an open safety pin. If not, offer the baby a drink of boiled water, and when through take the bottle away, and let him alone. If the baby cries, pay no attention. Most mothers are afraid that the baby will become ruptured. Sometimes, to satisfy the anxious parents rather than from necessity, I put a strip of adhesive tape across the abdomen to dispell the fear of rupture. I also assure the parents that the average healthy child needs one to two hours of vigorous crying daily in order to expand his lungs.

The results that I obtain by this method are either very good or very poor. They are almost uniformly poor where the household is such that the infant is not allowed to cry because of disturbed rest to various members of the family. On the other hand, they are uniformly good where the infant is made to realize that his crying is of no particular moment to those around him. The parents are warned not to expect immediate improvement, the process taking about ten days. The habit is usually broken in from two to five days, except where the crying has lasted considerable time. I have not seen many babies of this type who do not yield to this management in one to two weeks if the directions are followed.

A GENERAL PRACTITIONER'S LABORATORY*

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Of recent years, the laboratory side of medicine has been stressed a great deal in both the diagnosis and treatment of diseased conditions with which we are confronted. While a laboratory in no sense supplants or replaces the ability to feel, see and hear, it does have its legitimate place in the diagnostics and treatment of pathologic conditions. It is not to be regarded as a superdiagnostic agent but it can be utilized to prove our diagnoses as well as to make them when the condition can be understood only in that way.

The equipment of a laboratory can be much or little, and the ordinary laboratory for the ordinary man in active practice, need not be large and cumbersome, nor need it be particularly expensive.

The first requisite of any laboratory is a good, dependable flame. As most of our cities and many of our smaller towns have gas, that phase is easily disposed of, but, in the event that they do not, it does not preclude the obtaining of a good flame. If you will take an ordinary Bunsen Burner, remove the top that comes with it and screw an ordinary piece of pipe onto it and then bore holes into it from below so that the air can come into the pipe from below the inlet of the gas, so that the pipe is used for a mixing chamber, and you can attach the tube from an ordinary prestolite tank to the tube for the admission of gas and have a flame with which any laboratory procedure can be done. As a prestolite flame is much hotter than either gas or alcohol, you must use a great deal of care or everything will be burned, but a little experience will cure that difficulty.

The next essential in any laboratory is a good microscope. It may be of any standard make with low power, high power and oil immersion lenses. Whatever you do, however, get a good make and keep it. Do not change instruments if it can be helped. Microscopes have individualities the same as motor cars. For the light for your microscope, one of the box lights made by either Bausch and Lomb or the Spencer Lens Company will furnish all the light necessary for use day or night and, as the average man has more time for study at night than in the daytime, it makes it extremely valuable from that angle.

The next necessity is a centrifuge. They are now made so that they can be run with electricity, water or by hand, so that there can be no valid reason for not having one of some type.

The next thing is an incubator. These are now built so that they can be operated by gas, electricity or kerosene, so that the incubator can be used under any and all circumstances. Culture media are now made up in tabloids by the Burroughs-Welcome Company so all that is needed is a tabloid, some distilled water and a little effort and the medium is made. In the event that some other type is needed, ascitic fluid can be taken from that old case of general anasarca, placed in the ice box until wanted and used where applicable. Most of the pharmaceutical houses are now putting out blood serum culture media and they can be obtained on very short notice from nearly any drug store.

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Your stains can also be purchased in tabloid form with the single exception of Wright's Stain. As Wright's requires a very technical process to manufacture, it had best be purchased ready prepared by some good reliable laboratory. Each batch of Wright's should be tested when first obtained as they vary quite a bit in the time required to make the slide. The tabloid method of making stains has many advantages over the old ready prepared method as it is much the most economical way to get them and as all stains are much better when fresh these can be made up fresh when needed. I know of nothing so disappointing as to try to work with an old stain, all full of molds and dirt, which at no time lets you see a clear picture of what may be on your slide.

Slides can be obtained from any surgical supply house. You will want plain slides, blood counting slides and slides for the viewing of a hanging drop. The hanging drop slides can be used for blood-matching as well and I would recommend those slides made from red or brown glass with the concavity colorless over any of that type. Test tubes should be of many sizes and as many of them made from pyrex glass as possible. Filter paper, funnels, litmus paper and all of those things can be purchased from any supply house at a not very great expense.

The chemical reagents needed will keep suggesting themselves as one progresses in his work. A few of the ordinary ones to start with and add others as the necessity for their use may arise. Get them from some standard laboratory equipment house so that you need never be in doubt as to the accuracy of your reagent.

Get a still. You can buy one ready made or you can make your own with a flask, some glass tubing, a large sized test tube and two rubber corks. You will want it to manufacture distilled water for your intravenous work as well as to distill off acetone and a thousand uses will suggest themselves as one becomes accustomed to it.

A hemoglobinometer is likewise a necessity. A Dare is probably the fastest, a Sahli, the most reliable and a Tallquist the least reliable, but whatever type you get, become accustomed to it and keep it.

With our laboratory fairly well equipped, what are we going to learn by using it? Let us first take up the chemical side. Urinary examinations may require, albumen, sugar, acetone, diacetic acid, indican, blood, pus, the Ehrlich-Diazzo, urea output and many others that will suggest themselves and can be found out by chemical means. Albumen, qualitatively by nitric acid, quantitively by Esbach's reagent; sugar, qualitatively by a Benedict and quantitively by Purdy's method; acetone by either Gunning's or Lange's method; di-acetic acid by either Gerhardt's or Lindemann's method; indican with Obermeyer's reagent and chloroform; blood by either the benzidin or the guaiac test, urea by the hypobromite method and the Ehrlich-Diazzo with the reagents for that test. All these are simply and easily done and give quite a bit of information. As regards the guaiac test for blood make your tincture of guaiac as you use it. Keep some gum guaiac and when you wish to run a urine for blood, add some alcohol to a small amount of gum guaiac, shake and let stand for a short time and then add your peroxide and you have a reliable reagent. The Ehrlich-Diazzo is not of much value except as a negative test. A positive Ehrlich does not necessarily mean the presence of typhoid, but its absence does mean that typhoid is not present.

In your blood chemistry, you wish to determine the percentage of hemoglobin, the amount of blood sugar, and the presence or absence of a renal insufficiency and occasionally a Van Der Berg reaction to differentiate between a hemolytic and an obstructive jaundice. This can all be done within a very short time with but little effort and the information is well worth while. Hemoglobin percentage can easily be determined by the Sahli method. The blood sugar by the Shaffer-Hartman, the Epstein, the colorimeter or the Jaffe. Of all these my preference is for a modification of Jaffe's method. It requires but one-tenth of a cc of blood, is easily and quickly done and is accurate enough for clinical purposes. It would be of no value in research work but it is the quick reliable things that we want to work out in our laboratory. The method is as follows: Take a clean dry test tube and place therein one and nine-tenths cc of distilled water. Get one-tenth of a cc of blood either from a finger pad or the ear and put into the water, washing out the pipette so as to get all the blood into the water. Add to the water-blood mixture, one and five-tenths cc of a saturated solution of picric acid to deproteinize the blood and filter. The filter must be very small or too much of the solution will be wasted in filling up the paper. Take two and one-tenth cc of the filtrate and add three-tenths of a cc of 4% sodium hydroxide and heat until no further brown color appears then dilute to 2.4 cc with distilled water. Against a pure white background the solution appears yellow or a very light brown color when the blood sugar is normal. If the content is high, it will be clearly brown. Where the blood sugar is around 200 milligrams per cent the coloring is slight, around 300 is clearly brown and over 400 is a deep brown. The test can be checked against a Shaffer-Hartman a few times until the user has accustomed himself to the reaction and it is amply accurate for clinical purposes. In determining the presence of a renal insufficiency a method of Erwin Bechers is handy and convenient. It will not tell you which kidney is at fault nor exactly the amount of retention of urinary products but it will tell us that renal insufficiency is present and that we had better follow out that lead. It is in no way difficult. Draw 10 or 15 cc of blood and immediately deproteinize with 20% trichloracetic acid. Filter. Take 2 cc of the filtrate, put in a test tube with .5 cc of pure concentrated nitric acid and boil for one-half to one minute. After cooling, add 1.5 cc of 33% sodium hydroxide solution. Under normal conditions, the mixture will show only a faint yellow tint. In renal retention the color is clearly yellow and the greater the retention the deeper the coloring. A comparison can be made if one wants to make an amopule containing a 1:10 dilution of the 0.3874% potassium bichromate solution used in standardizing N/10 sodium thiosulphate solutions.

The technique of the Van Der Berg reaction is simple and can be obtained from any standard work on laboratory technique. Its principal value is in the differentiation of a hemolytic from an obstructive jaundice.

At this point it might be well to mention the cell sedimentation test of Linzenmaier. It requires a short time and is of a great deal of help in differentiations of pelvic conditions that are at times obscure. It is also of value in the prognosis of many chronic inflammatory conditions such as tuberculosis as the worse the prognosis, the more rapid the sedimentation time. At this time it may be necessary to make your own tubes but it is easily and quickly done by getting some glass tubing .5 mm. in internal diameter and marking it with a file.

Next in our chemical work will be the examination of gastric contents. A very handy and convenient test meal is one shredded wheat biscuit and six to eight ounces of water which can be given in your own office. In one hour remove with a tube and begin your determinations. The presence or absence of free HCl can be determined by the addition of a few drops of a .5% Sol. of dimethylamidoazobenzol and if a quantitive is desired, it can be titrated with decinormal sodium hydroxide solution which can be obtained already made up from any good laboratory. In the absence of a burette, the measurements can be made with a pipette graduated in .1 cc. For total acidity, a one per cent alcoholic solution of phenolphthalein can be used and a quantative arrived at by the use of the same solution of sodium hydroxide. If there be no free HCl and lactic acid is to be looked for, Uffelman's reagent is as reliable as any and is easily made by adding three drops of ferric chloride to three drops of carbolic acid and adding distilled water to an amethyst color. Add your suspected contents to this solution and the presence of a distinct yellow color means lactic acid and your search for a carcinoma should be a little more thorough.

In your search for blood, chemically, either the benzidin or the guaiac test are applicable here and should be carried out exactly in the same manner as described for urine. The presence of the blue line at the junction point of the reagent with the suspected material means blood.

As to feces, about the only thing that the ordinary practitioner would hunt for would be occult blood. In making this examination, it is well to give a capsule of ten grains of carmine and allow no protein food after it has been taken. The patient will pass a brilliant red stool when the carmine comes through and the next stool following the red one can be used for your determination. Emulsify the stool in either normal salt solution or distilled water, extract with glacial acetic acid and ether and test the extract in the same way as for stomach contents.

We may wish at some time to do some chemistry on the spinal fluid and the principal thing of which we are in search is the sugar content. Sugar is normal in the fluid but is greatly reduced or absent in both tubercular and meningococcic meningitis. There is no reduction in streptococcic or staphlyococcic infection. The presence or absence of globulin in syphilis of the cord may be determined by floating a saturated solution of ammonium sulphate over the spinal fluid. A gray line at the point of contact constitutes a positive reaction. The Pandry test for cord syphilis is made by the use of a one-tenth deci-normal solution of carbolic acid floated upon the spinal fluid as with the globulin test.

Next comes the microscopic side. Blood counts are of the greatest importance and should be done in practically every case that we see. They can be quickly done and all the material necessary can be carried so that the blood can be taken in the home of the patient. The diluting solutions can be purchased ready prepared or can be prepared in your own laboratory. If you use a 1% solution of glacial acetic acid in making white counts, it is a good thing to add a little gentian violet to the solution in order to help keep down molds as well as to bring out the white cells a little more plainly. Differential counts are easily made with Wright's solution and in cases of tuberculosis, it is a good plan to count your polymorphonuclear cells and note the number of nuclei in each cell. This is, make five columns and under column one place all polymorphonuclear cells having one nucleus; under two, all those with two nuclei; under three, all those with three nuclei, and so on. Whenever the preponderance of multinuclear cells is greater than two, our prognosis is invariably better. The distortion of red cells and the variance in size and staining qualities is so readily noticed as to need no comment and should always arouse our suspicions as to blood conditions in that individual.

In the microscopy of urine we look for casts which, if present, are easily seen if we cut the light down to the smallest possible amount that will let us see at all. More casts have been missed through the use of too much light than in any other way. We also look for the various crystals. To my mind the one most important for the ordinary man are the triple phosphates. Those crystals that are shaped like a coffin lid are oftentimes the first sign that that particular patient is starting a beginning renal insufficiency. Whenever you have pus and wish to stain a slide, add to the sediment on the slide either a drop of blood serum or a bit of egg albumen or the sediment will wash off and you will have nothing at which to look. In women always insist on a catheterized specimen of urine and obtain it under rigid aseptic precautions.

Spinal fluid may be put in the centrifuge and examined microscopically to good advantage. It can be stained or not, depending upon the reason for your search. In the unstained specimen, you may wish to make a cell count and if so make up your reagent, which consists of:

Glacial Acetic Acid 2 cc.
Methyl Violet gms. 0.1.
Water 50 cc.

Use the ordinary white cell counting pipette and draw the fluid up to the mark "1" and fill with your diluting fluid. Count the cells on an ordinary blood counting slide and divide by 100/81. The quotient will give you the number of cells per cubic millimeter.

In the microscopy of the gastric contents your search will be made for the Boas-Oppler bacillus. The only point where one might become confused is in differentiating it from the *Leptothrix* which is a normal inhabitant of the mouth. The one point of differentiation, aside from the size of the organism, is the fact that the Boas-Oppler stains brown with iodine and the *Leptothrix* does not.

In sputum examinations, the principal thing of which you are in search is the tubercle bacillus or you may want to determine what organism is predominant in the sputum of patients acutely ill. Any of the ordinary stains will show the pneumococcus, the hemolytic streptococcus or the bacillus of Fraenkel. Your tubercular slides can be stained with the Ziehl-Nelson method, well known to you all. For your counterstain, one can use Gabbett's methyline blue or a fifty per cent solution of picric acid.

In making smears of ordinary pus, always make two smears or more. Stain the first with any ordinary stain to determine the general character of your organism and you have the second for differential staining if necessary. Gram's stain for the gonococcus is so well known as to require no explanation. In staining pus where I am suspicious of any type of an intracellular organism, I always use pyronin-methyl-green as it will stain the protoplasm of your cell a bright blue and your organism a bright red and in that manner the intracellular type of organism is brought into bold relief.

You may see a suspicious looking sore, which may be syphilitic. Clean the ulcer thoroughly, squeeze some serum onto a slide and fix with heat. Dilute the carbol-fuchsin that you use in your tubercular stain, one to ten, and place one drop on a cover glass. Turn the cover glass over the fixed smear and put under the microscope. The spirochete will show a beautiful bright red organism with from twelve to fifteen turns. The longer the glass is over the smear, the brighter the organism becomes. Wright's solution may also be used to stain the spirochete but takes a longer time and is a little more difficult.

You can get a growth of typhoid and keep it by regular transplantings so that you could do your own Widal's but, except in the presence of an epidemic, I do not think that it would be an advisable thing to do.

There are a great many more things that could be added to this paper as it is in no sense a compendium of laboratory information but is only meant to call attention to many of the simple things that can be done anywhere, any time and under practically any circumstances that will furnish a great deal of valuable information to the man who has to diagnose and treat pathological conditions that without labortory help, might prove baffling.

PREPARATION OF THE PROSTATIC TO MINIMIZE THE SURGICAL RISK

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The keynote of this essay is "Preparation" of the Prostatic to minimize the surgical risk.

Symptomatic treatment of the prostatic is directly responsible for thousands of deaths annually among old men afflicted with this disease.

The high mortality rate is not among those subjected to proper surgery, but among those who are not. What is the explanation of the physician's attitude in such symtomatic treatment and procrastination in these cases? It is because he thinks such treatment is really indicated and is not aware he is dealing with a mechanical obstruction which is amenable to surgical correction, and that statistics show 20% of all such cases degenerate into malignancy? No. The average physician is essentially well-informed, and is fully cognizant of the underlying course bringing about the subjective symptoms. His reluctance in advising surgical treatment may be attributed to the fact that he recalls, without having to go far back into history, that the mortality following this operation was so great it was universally believed arrangements should be made with the undertaker to conduct the coming funeral, before the operation was performed.

In order to overcome the tendency toward operative procrastination on the part of the physician, it is necessary to convince him that the following statements are true. First, that prostatectomy before the advent of kidney functional tests and blood chemistry determinations, and prostatectomy at the present time are entirely different procedures. Second, that with proper preparation this operation is no more to be dreaded than an appendectomy, performed upon a patient of similar age, if done before serious secondary changes have taken place in the renal and cardio-vascular systems.

Let us take a look at the average prostatic that is referred to the urologist today. One sees an apathetic old man, whose muscles have atrophied and withered away. His eyes are dull and vacant, with wrinkled pouches beneath them. The skin has a death-like cast, and is cold and clammy to touch. The arteries are hardened and distended. His breath has a characteristic urinary odor, and the tongue is dry, furred and thickened. The bladder is over distended and not infrequently, he has an overflow dribbling. One realizes at a glance that he is dealing with an old worn-out human wreck, sick, weakened and poorly nourished from lack of food assimilation; exhausted by loss of sleep, due to getting up at intervals throughout the night to urinate, toxic on account of blood absorption of poisonous retained products, and uroseptic, as a result of impairment of renal function. As an operative risk such a man seems almost a negligible quantity. However, it is expected of the urologist to operate and functionally restore him. And it is entirely to the urologist's credit that he does take these worn-out old men, relieve them of their constant suffering, give them comfort and add quite a few years to their lives.

These old men, varying from the seventh to the tenth decade, present the picture they do because of poor excretion.

The primary consideration then in these cases is to heighten elimination. Absorption from the bladder must be prevented, and the overtaxed kidneys relieved. Elimination in all other systems which are laboring under an unusual amount of work must be promoted. I desire to preface any remarks which may hereinafter follow with the most emphatic admonition that—"Uremia and mortality follow haste." These patients are mentally, organically, clinically and many times palliatively fatigued, and we have to do everything possible to fortify the situation. Pre-operative treatment may have to be continued for weeks or months. Naturally the first step is to empty the bladder and relieve the kidneys of the back pressure exerted upon them. Ordinarily this procedure would seem a simple matter, but sometimes dire consequences follow if the bladder is emptied too rapidly. The first of these is severe hemorrhage from too rapid release of the intra-vesical pressure on the distended veins of the bladder wall. The second is acute congestion of the kidneys with complete suppression of urine, in which case death may ensue. Much discussion has taken place as to whether the bladder should be emptied by an indwelling catheter or a supra-pubic tube. Personally, drainage by the retention catheter is the ideal, but in the occasional case it proves insufficient for any continued length of time because of occlusion and irritation. The urine should be drawn off slowly, a little at a time, replacing part of the bulk at each emptying of the bladder. This same method of emptying the bladder can be accomplished under supra-pubic drainage. In the latter procedure, if the bladder is approached in the proper manner, one need not completely evacuate the retained urine therein. Primarily the urine in these old bladders is usually of a high specific gravity, and is apt to mislead the physician into believing the patient is much better than he really is upon primary urinalysis. Almost invariably, however, after a few days drainage it will be noted that the specific gravity of the urine will drop to a rather low level. In the meantime the patient will become restless, he will not sleep well and his appetite becomes poor.

The patient is in a manifest stage of mental reaction at this period from his uro-sepsis. If this phase has been approached cautiously, no undue concern need be felt for the patient will soon begin to manifest a subsequent rise in his urinary specific gravity with a concomitant clearing of his mental symptoms. His appetite becomes better and he begins to sleep well. His skin becomes moist, his tongue loses its characteristic appearance of the uro-septic, and in general the patient begins to express a feeling of well being.

Too much stress cannot be placed upon routine observance of kidney function tests in these cases. As a rule most of these cases present decidedly diminished dye output, denoting definite damage to their excretory apparatus. I believe it is a safe average to say that below 35 per cent combined dye output, extreme caution should be used in operating. It must be borne in mind, however, that not infrequently an infected kidney may show a high dye return and for that reason a good output does not always necessarily mean a safe operation.

As a parallel adjunct to the renal function tests the study of the blood chemistry should be taken into careful consideration. A high non-protein nitrogen and blood creatinine findings are existent in reverse ratio to the dye output, and as the functional ability of the kidneys approach normal, there is a parallel lessening of the retained nitrogenous products in the blood stream.

The change in blood pressure during the period of operation would seem also to indicate a change in renal function. During this period, apparently, patients with a high systolic pressure will stand operation well but if the diastolic pressure is high, especially if it is high in proportion to the systolic, their chance of withstanding a surgical procedure is not really so good.

Drainage having been instituted and under way, in these cases forced fluids should be the watch-word. Many of these patients are in the beginning unable to take water by mouth on account of distaste and nausea, and one is forced to resort to other methods in getting fluids into the body. Throughout the early preparatory period I believe there is no better method of fluid intake than an intra-venous of from 500 to 1000 cc normal salt solution daily. Under this method of procedure the uro-septic mental reaction is minimized in the extreme. Under this procedure the new level of the patient is rapidly accomplished.

Free elimination throughout this period, of the intestinal tract is of importance. A regular laxative for the upper tract and colon irrigation from below will maintain a free exit and prevent absorption when stabilization is well under way.

It is well to have these old men out of bed as much as possible, as this aids the circulation, gives them strength, and improves their morale.

A good appetite is not infrequently a fair indicator of the patient's condition.

Many of these old prostatics have a co-existent cystitis, vesical calculus, diverticulitis, nephritis, pyelitis, chronic bronchitis, cardiac disease, etc.

A vesical calcuus should be removed at the time of the supra-pubic drainage.

Infected bladder and kidneys usually show marked changes for better under forced fluid regime.

Specific attention should be given to the chronic bronchitis and cardiac disease, although not infrequently these affections disappear during the period of preparation.

It is not within the province of this paper to establish contention between the supra-pubic and perineal operations. One must weigh the estimates presented in each individual case and keep in mind the element of safety, choose the operation that will promise the most favorable result in that individual case.

Let it suffice to say, however, that there should be no fixed rule as regards a one, two, or three step prostectomy; the steps should vary in number as the individual case should demand.

Of the anesthetics, sacral anesthesia with abdominal block has worked excellently in my hands, and where necessary, ethylene and oxygen as the buffer anesthetic.

CONCLUSIONS

1. Consider all prostatics potentially bad risks.
2. Prostatic mortality is dependent more on the condition of the kidneys than anything else.
3. Careful preparation makes for safe operation. Do not operate in the presence of a low urinary specific gravity. Pre-operative care is of the greatest importance.

It should not be forgotten that the removal of the prostate is but an incident in the readjustment of the patient's physiology, and should be removed at the time of minimal risk. To do otherwise is a flagrant disregard of the patient's welfare.

INDICATIONS FOR THE SURGICAL TREATMENT OF TOXIC GOITER*

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Etiologically and symptomatically goiter cases are classified as:

1. Inflammatory.
2. Exophthalmic.
3. Endemic.
    a absence or maximum reduction.
    b myxedema—marked hypofunction.
    c hypothyroïdism—moderate hypofunction.
    d hyperthyroidism—hyperfunctioning adenoma.
4. Malignant growths—1% of goiters operated.

Of these the following are toxic goiters:

1. Exophthalmic, and
2. Hyperfunctioning adenoma.

The diagnosis of toxic goiter is no longer made exclusively by the syndrome-exophthalmos, tachycardia, tremor and goiter. Exophthalmos and goiter are often lacking. It may be diagnosed by tachycardia alone, checked by the metabolic rate. Salient diagnostic points to be ascertained in the amanuensis and checked by an increased metabolism rate are:

1. Transitory tachycardia on excitement and moderate exertion in lieu of a continuous tachycardia.
2. Nervousness without cause and beyond the patient's control.
3. Tremor on excitement or exertion in lieu of a constant tremor of the characteristic type.

In the incipiency of exophthalmic goiter there are few classical manifestations. In its incipiency the patient should remain under medical care for a reasonable time until all non-operative means of securing relief have been exhausted without arresting the disease. If non-surgical means fail quickly to remedy this disease in its early stages, it is the duty of the physician to advise operation in the safe and curable stage. Neglect to urge surgical intervention in all cases not properly responding to non-surgical measures is an unpardonable professional blunder. The early typical exophthalmic goiter is always surgical, but a fulminating case of goiter is never surgical when first seen.

There is no emergency operation for toxic goiter. A wise surgeon will hesitate to advise operation where the risk is great. The mortality attending surgical treatment of toxic goiter depends on the care with which cases are selected and prepared for operation and on the type of goiter. The surgical mortality at the Mayo Clinic on 1497 patients, representing the work of 8 surgeons, is reported by Plummer in 1922 as follows:

Hyperfunctioning adenoma	3.48%
Exophthalmic goiter	1.99%

The indications for the surgical treatment of toxic goiter are based on the operative risk and the prognosis. They may be classified under the following headings:

1. *Age.* Surgery of the thyroid in general is for adults. The endocrine balance during childhood and adolescence should not be upset by surgery of the thyroid. Exophthalmic goiter should not ordinarily be considered a surgical case until physical and mental growth is accomplished. There is very little need of much bulk in the thyroid after the maturity of sex. Adenoma in childhood is no more amenable to non-surgical treatment than it is in adults, but it seldom takes on a toxic character until early middle life.

2. *Toxicity.* In considering toxicity the interest centers in remission of toxicity. In treating the subject of remission of toxicity we include restoration of grave physical impairments incident to toxicity such as congestive heart failure, loss of self control, mental derangements, and progressive loss of weight. Exophthalmic goiter is a constitutional disease marked by an increased metabolic rate with resulting secondary

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*Read before the Lancaster County Medical Society, February 21, 1928 manifestations, with a peculiar nervous syndrome, and usually exophthalmos, with a tendency to gastro-intestinal crises and diarrhea. When a patient is on the toxic up-grade operation is never indicated. Toxic goiter patients are never preferred risks, and conservatism in electing a time to operate should always be practiced. The patient must have passed the peak of exacerbation and be definitely on the way of a remission to be a surgical case. The favorable trend of the toxic cycle is indicated by:

a progressive decrease in the matabolic rate over a period of time.

b stabilization of heart action.

c gain in poise.

d gain in weight.

METABOLIC RATE

The metabolic rate is above normal. The surgical risk is measured by the entire clinical picture, checked by variations in the metabolic rate over a period of time. A series of readings showing a descending metabolic rate over a period of a few days to a few weeks, at the termination of which the nutrition, the mental and nervous and the circulatory symptoms are stabilized at an optimum of improvement, or are approaching normal, provide the best criterion of value for the interpretation of metabolic rate as an indication of the surgical risk. If the metabolic rate cannot be taken accurately in a case, substitutes, such as the Goetsch test of adrenalin hypersensitiveness or the Kottman test may be tried.

STABILIZATION OF HEART ACTION

The heart in toxic goiter may be in a state of:

a overstimulation and hypertrophy,

b beginng exhaustion, or

c decompensation with congestive heart failure. The first stage heart condition is not an important factor in surgical risk. However, the reduction of the rate and force of the beat accompanies a general improvement in these cases. The second stage is characterized by a loss of snap in the sounds and more or less irregularity of rhythm, and often by a beginning of auricular fibrillation as an indication of an over worked and toxic myocardium and constitutes a relative degree of risk. The heart in this stage usually improves beyond the point of serious risk under rest treatment and with a gain in the general symptomatology of the case. The third stage with subcutaneous edema and fluid in the abdomen or thorax constitutes absolute heart risk, and requires remedy by rest, digitalis, dehydration, etc., to convert it into a relative risk of the second stage.

GAIN IN POISE

Loss of self control, excitability, mental derangement and tremor constitute nervous phenomena of toxic goiter directly reflecting degrees of toxicity. The patient should be brought to a reasonable state of self control for cooperative effort under local anaesthesia in the operating room to be a good risk.

GAIN IN WEIGHT

Toxic goiter cases lose weight. No operation should be undertaken when the patient is losing weight, as it indicates too high a degree of toxicity or increasing toxicity.

3. *Surgical Therapeutic Tests.* Preliminary ligation of one or both superior thyroid arteries, primarily done for the purpose of reducing toxicity as a preparation for radical operation is incidentally a valuable therapeutic test for the determination of surgical reaction in the case. It materially assists to check the factors of self control, circulatory and nervous resistance against an operating room ordeal under a minimum surgical contact. Operations of moderate severity on other parts of the body may also serve the same purpose.

4. *Early Operation.* The necessity for early operation to arrest the disease before permanent and irreparable damage has been done to the nervous system and the circulatory system must be appreciated to obviate a certain degree of incurable invalidism following operation and to forestall additional risk.

5. *Economic Status.* The economic status affects the decision as to the pursuit and termination of non-surgical treatments. Wealthy women of the leisure class can afford to run through the gamut of all the non-surgical treatments and take greater risks of slow and incomplete recovery than those of limited circumstances, and bread winners.

6. *Concurrent Diseases.*

a Remediable Surgical Diseases. If another surgically curable disease runs concurrently with toxic goiter the one which is the most urgent in the case should ordinarily receive first attention. Malignancy and conditions threatening life elsewhere in the body take precedence. Operation to eradicate focal infection may improve a toxic goiter. Operation attended by general anaesthesia, shock and hemorrhage may aggravate toxic goiter. An operation not especially aggravating to toxic goiter and followed by a rest in bed may be done first to shorten the stay in the hospital.

b Other Diseases. Diabetes, nephritis, arteriosclerosis, cardiac insufficiency and other diseases.

according to their severity and the condition of the case may contraindicate surgical treatment of toxic goiter.

7. *Contra-Indications.*
    - Mental derangement.
    - Loss of weight (progressive).
    - Extreme restlessness.
    - Cardiac decompensation.
    - Metabolic rate very high.
    - Vomiting.
    - Diarrhea.

Hyperfunctioning adenoma deserves separate treatment from exophthalmic goiter on account of pathology, diagnosis, clinical course and method of surgical treatment. The surgical indication for operations in hyperfunctioning adenoma is—removal of the adenoma, whereas in exophthalmic goiter it is reduction of the bulk of the gland. Hyperfunctioning adenoma is strictly a surgical disease, whereas exophthalmic goiter may be amenable to non-surgical treatment. Preliminary ligation of the superior thyroid arteries does not mitigate toxicity in hyperfunctioning adenoma, whereas it produces marked benefit in exophthalmic goiter cases associated with marked vascularity as indicated by thrills and bruits over the four cardinal vessels. Damage to the myocardium in hyperfunctioning adenoma is more rapid, and heart recovery, post operatively, does not take place, whereas, heart recovery in exophthalmic goiter, post operatively, is the rule. Differential diagnostic points between these two conditions are:

1. Blood pressure.
2. Therapeutic tests.
    - Iodine.
    - Ligation.
3. Thrills and bruits over the four cardinal vessels. Both conditions may obtain in the same case.

A CASE OF UNDULANT FEVER

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The recent work of Evans(1), Watkins(2), Lake and other investigators has emphasized the fact that infections with the organism, micrococcus melitensis, occur in all parts of the United States. Previous to their reports, especially those of Alice C. Evans and her co-workers, this disease was rarely considered as a diagnostic possibility. In their opinion patients with this infection were very frequently diagnosed and treated for typhoid fever, tuberculosis or some form of arthritis. These diagnoses were generally based on the clinical finding of some symptom that could be classified as belonging to one of the above diseases.

We believe, therefore, the case stated below is well worth reporting and will be of interest to the profession in this section of the country. We are constantly in contact with a clientelle that is engaged in the handling of livestock. The fact that certain animal infections can be transmitted to man should arouse our diagnostic acumen to consider the possibility of these infections in some of our atypical cases.

CASE: W. M., aged 49, a stockman, married, consulted Dr. W. J. Reeder on October 14, 1927. At this time he complained of general body pains, muscle soreness and loss of strength. These symptoms had been present for the six weeks preceding his visit and were gradually becoming more pronounced. During this period he had attempted to perform his usual work, but of late it had become impossible. Five days after his call (October 19) the patient was confined to his bed and was complaining of cramping pains in his abdomen with some distention. He added that he was carrying a fever in the evenings, was having chills in the early part of the night followed later by a drenching perspiration. The body pains had become more severe and there was some pain in the various joints. During the next week the patient's condition because such that hospitalization was recommended. He then entered St. Joseph's Hospital on October 25, 1927 . To the above history was added the symptom of pain in his lower right chest, and a slight cough accompanied by a grayish expectoration.

Physical Examination: The musculature of the patient showed some wasting. The nose and throat examination by Dr. B. M. Kully was negative for any active infection. The heart showed nothing abnormal either as to rhythm or sounds. Lungs: at the lower right base there was dullness with moist rales. The abdomen was slightly distended but no masses were palpable. There was some tenderness in the lower left quadrant on deep palpation. Joints: in no joint was there any serious impairment of mobility although the patient complained of pain in the lumbar area and to a lesser extent in the right ankle, the right knee and the left shoulder.

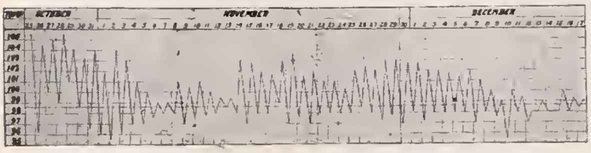
Laboratory: The urine was negative for albumen, sugar and pus. The blood count showed a white cell count of 7,400, while the differential count was polymorphonuclear cells 56, and lymphocytes 44. Blood Wassermann was negative. The Widal reaction was negative, as were the blood, urine and stool cultures. With the above negative findings we considered this a possible case of undulant fever.

The agglutination tests with the micrococcus melitensis were positive in dilutions up to 1:5120. The agglutination with the bacillus abortus was negative.

These reactions were then rechecked and verified by Dr. B. C. Russum.

The patient remained in the hospital for a period of fifty-six days and the progress during this time is as follows:

Temperature: This is very well demonstrated in the accompanying chart and the extreme variations for each twenty-four hours are so registered. In the early morning hours the temperature was normal. During the day a pyrexia would develop, reaching its greatest height about 10 p. m. At this time the patient would then suffer with severe rigors, lasting from five to forty-five minutes. These were in turn followed by a drenching perspiration of several hours duration, and the temperature would gradually return to normal. After several weeks in the hospital the rigors and perspiration became less intense, but the fever continued its undulating course up to the time of its complete remission.



Gastro-Intestinal: Early in the course of the disease the patient complained of severe cramping pains in the abdomen. These were very similar to the type of pain encountered in acute appendicitis. These pains were usually associated with a distended abdomen which in turn had been preceded by a constipation of several days duration. By means of enemas this latter condition was relieved and likewise the attacks of pain.

Nausea and vomiting accompanied the rigors. This gastric disturbance was attributed to the slight syncope which the patient experienced at the time. During the second week in the hospital the patient's gums became swollen and tender, necessitating the removal of a bridge.

Pulmonary: The cough persisted during the course of the disease but repeated sputum examinations showed only an occasional cell with the usual organisms found in the upper respiratory tract. The physical findings and the x-ray films were constantly suggestive of a basal bronchitis. In fact at the end of fifty-six days in the hospital, moist rales were still present in the lower right lung field.

Cardiac: The only signs of cardiac weakness which appeared during the course of the disease made themselves manifest following the severe rigors. The only irregularity which occurred followed an intravenous injection of mercurochome. However a short time before leaving the hospital a murmur did develop at the base of the heart. This murmur is still present, but as yet no signs of cardiac embarrassment have developed.

Joints: Although the earliest symptoms of this patient's illness were suggestive of an arthritis, at no time was there any sign of an acute inflammatory reaction in the joints. The patient's chief concern was the pain in the lumbar area. This pain can best be described as the crushing type of backache encountered in the prodromal stages of small-pox.

Blood: The only significant findings here were the positive agglutination of the micrococcus melitensis and the normal number of leucocytes with a relative increase in the lymphocytes.

Therapy: During the time the patient was in the hospital, hydrotherapy both internal and external was intensively used. Fruit juices and alkalies were freely administered. Milk to which lactose, dextrose and glucose had been added was considered the best food during the early stages of the disease. Later on other varieties of food were gradually added to the diet.

Due to the reported successes of intra-venous injections of mercurochrome (3) in several cases of bacillus abortus infection this form of therapy was attempted. The second injection was followed by signs of cardiac collapse, and the dye was then discarded. Others had reported the successful treatment of this infection with acriflavine (4). This dye was pushed to the point of saturation over a period of twenty-one days with no appreciable difference in the course of the disease. Other than these two attempts at a radical cure the treatment of this patient was very similar to what one would carry out in the management of typhoid fever. Atropine in full doses did seem to have a beneficial effect in lessening the degree of perspiration. After leaving the hospital the patient continued to have a slight rise in temperature each evening for about three weeks. Since that time his temperature has been normal and his general condition is excellent.

COMMENT

The etiological agent in undulant fever is the micrococcus melitensis. The etiological agent in contagious abortion in animals is the bacillus abortus. In 1918 Alice C. Evans(5) reported her investigations with these organisms. She found that they behaved very much alike in cultures, in their bio-chemical reaction and in animal inocculations. Injections of both organisms in pregnant guinea pigs produced abortions in the same ratio and the autopsy findings seemed to parallel another. From these laboratory experiments she concluded that the micrococcus melitensis is closely related to the bacillus abortus. This relationship being more intimate than that found in the serologic types of meningo-coccus. The only differentiating point between the two organisms seemed to exist in the agglutinating qualities of a melitensis anti-serum for the abortus bacillus.

To render this work of clinical interest she collected a series (1) of twenty cases of undulant fever due to the abortus bacillus. In these case reports the histories showed that the human infection always depended upon a preexisting abortus infection in animals. The transmission of the infection was through some such medium as raw milk, cheese, dust or the caring of animals that had spontaneously aborted. These findings by Evans would lead one to suspect that undulant fever may be the result of the bacillus abortus as well as the micrococcus melitensis.

CONCLUSION

Since we are living in an agricultural centre we should consider that infections common to animals are probable factors in our human infections. Undulant fever in man appears to have the same causal agent as contagious abortion in animals. A knowledge of the latter disease in a community should aid one in making a clinical diagnosis of undulant fever in man. This diagnosis should be proven by agglutination tests, not only with the bacillus abortus, but also with the micrococcus melitensis.

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BASIC SCIENCE LAWS

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The first definite attempt to control the practice of medicine was apparently that of Roger II of Sicily who, in 1140, issued an edict forbidding anyone to practice medicine without proper examination. The penalty of imprisonment and the sale of his property at auction was paid by any individual who practiced or attempted to practice without having fulfilled this requirement. Roger's grandson, Frederick II, in 1224, by ordinance increased the scope of this important edict.

Frederick's edict required that a candidate for the license to practice medicine must be publicly examined by the masters at Salerno. The license was issued by the Emperor himself or his representative. Those who failed to comply with this requirement were subject to imprisonment for one year and confiscation of property. The examination was based upon the genuine books of Hippocrates, Galen and Avicenna. The candidate before taking the examination must have studied logic for three years, medicine and surgery for five years, and have practiced for one year under some experienced physician. The candidate who wished to practice surgery was required to present evidence that he had studied this art for at least one year, particular attention being paid to human anatomy, "without which no incision can be safely made nor any fracture treated". Under this license the physician was required to treat the poor for nothing; to visit his patients twice a day and once a night, if necessary; to have no alliance with apothecaries and if he found that they had adulterated or substituted drugs he was required to furnish information against them. This regulation might not be a bad one to incorporate in the present day medical code. Medical fees were fixed by this law.

Similar ordinances were enacted in Spain in 1283, in Germany in 1347, and in Naples in 1365. Frederick's edict elevated the status of respectable physicians and diminished the number of quacks. A board of examiners was also established in London in 1376.

During the reign of Henry VIII of England, an act was passed in 1511, which decreed that no one should practice medicine or surgery in London, or seven miles around or about it, without being first examined, approved and admitted by four doctors of physic or expert surgeons, acting under the bishop of London or the Dean of St. Paul's; while beyond the seven mile precinct, the applicant must be approved by similar bodies under the bishop of the diocese or his viscar general.

In what is now the United States the first attempt to control the practice of medicine through some test of qualification was made in the Massachusetts Colony in 1649. In only two of the thirteen original colonies were well-considered laws enacted to define the qualifications of physicians and these were not introduced until more than a hundred years later. The Massachusetts law of 1649 restricted the practice of medicine, surgery, and midwifery to such persons as might be judged competent by "some of the wisest and greatest", or most skillful in the same art with the additional consent of the patient. Acts to regulate the practice of medicine and surgery were passed in New York City in 1760, in New Jersey in 1772, in Quebec in 1788, and in Newark, Canada, in 1795.

Prior to 1890 the right to practice medicine in any of the states of the union was granted to applicants without examination. The restrictions placed on those who desired to practice were so meagre that almost any one could hold himself out as a physician and surgeon. Early in the decade 1890-1900, some of the older states established examining boards, New York creating such a board in 1891, Massachusetts in the same year, Maryland in 1892, and other states to the extent of less than 20 had created medical examining boards before 1900. Since 1900 the remaining states, and the island and other possessions of the United States, have fallen in line with the establishment of examination boards.

Previous to 1903 the right to practice medicine in Nebraska was granted to all applicants without examination provided they came from a medical college which was approved by the board. In the winter of 1903 a bill was passed by the Legislature creating a State Board of Health and

Board of Examiners for the state of Nebraska. The state constitution of Nebraska provides that the Board of Health shall be composed of the Governor, the Attorney General, and the Superintendent of Public Instruction. A Board of Secretaries to the State Board of Health, originally four in number, was first created in 1891. Under the act of 1903 the number remained the same as before and the appointment of the secretaries also was vested in the State Board of Health proper, the Governor, Attorney General, and Superintendent of Public Instruction. The provisions of this act, so far as the secretaries are concerned, are as follows:

> "4317. Sec. 3. Secretaries: Said board shall within sixty days after the approval of this Act appoint four secretaries, who shall be graduated physicians of at least seven years consecutive practice, who shall be at the time of their appointment actually engaged in practice in the State of Nebraska; one of whom shall be appointed for the term of one year, one for the term of two years, one for the term of three years, and one for the term of four years, and thereafter it shall be the duty of said board to appoint or reappoint one secretary every year as the term of those theretofore appointed shall expire, but each secretary shall continue in office until his successor shall have been appointed. Said appointments shall be made so that of said secretaries two shall be physicians of the so-called regular school, one of the so-called eclectic school, and one of the so-called homeopathic school."

There were provisions in this law for reciprocity with those states whose standards were equal to those of the State of Nebraska, provided the same courtesy was granted to persons who had passed the examinations of the State Board of Examiners in Nebraska. By 1909 the osteopaths had acquired enough political influence to secure the passage of an act granting them a separate Osteopathic Examining Board. In 1915 the chiropractors were able to persuade the legislators to grant them a separate Chiropractic Board of Examiners. The requirements necessary for entrance to either of the last mentioned schools were very much below the standard of those required by the socalled regular medical profession for admittance to their colleges, and the examinations in those subjects which would seem to be a necessary requirement for all those who desire to engage in the practice of medicine, namely, anatomy, physiology, chemistry, bacteriology, pathology, and perhaps other subjects, were exceedingly elementary or were not considered at all. In the Code Law passed in 1919 there was a provision which reduced the number of Secretaries of the State Board of Health from four to three. Of the three members of this board one was to be selected from the socalled regular medical profession, one from homeopaths, and one from the eclectics. The present Board of Secretaries is thus constituted.

Recognizing the inadequacy of preparation for the practice of medicine among the different cults, some of the states began to discuss means of overcoming this condition. In 1925 Connecticut passed a law which was known as the Basic Science Law. This law was amended in 1927. It requires as a prerequisite to admittance to examination before the Connecticut examining board, a certificate from the State Board of Healing Arts stating that the candidate has successfully passed an examination given by the board, in anatomy, physiology, hygiene, pathology, and diagnosis. Connecticut has five state boards of medical examiners: Homeopathic, eclectic, osteopathic, chiropractic, and natureopathic. According to this law a candidate who wishes to practice any one of these cults must present a certificate stating that he has passed the examinations given by the Basic Science Board before he may be admitted for examination to secure a license for practicing medicine or surgery, no matter what name may be applied to the system which he professes to follow. The provisions governing the appointment and personnel of this board are as follows:

> "ACTS OF 1925, CHAP. 161. SECTION 1. The governor shall appoint, on or before July 1, 1925, a state board of healing arts consisting of three members, one of whom shall serve for two years, one for four years, and one for six years from July 1, 1925. Upon the expiration of the term of any member of said board, the governor shall appoint his successor who shall serve for six years. If any member of the board shall die, resign or become incapacitated, the vacancy thus created shall be filled by appointment by the governor for the unexpired portion of the term. No person shall act as a member of said board who shall have received, from any school, college or department of a university teaching any branch of the healing arts, a degree in any of said healing arts or who shall be a trustee, director, officer or employee of any hospital. The members of the board shall receive no compensation for their services, but their reasonable expenses in the performance of their duties shall be paid by the comptroller."

The Wisconsin Basic Science Law was passed in 1925. It is defined as follows: "(c) The 'basic sciences' are anatomy, physiology, pathology and diagnosis". "(d) The 'board' is the state board of examiners in the basic sciences".

"The board shall consist of three lay educators, none of whom shall be on the faculty of any department teaching methods of treating the sick. The term of office shall be six years. A vacancy shall be filled for the unexpired term. The first appointments shall be for terms expiring April 1, 1927, 1929 and 1931, respectively . . . . The compensation of the members of the board shall be ten dollars for each day actually spent and actual and necessary expenses". The board is appointed by the governor with the advice and consent of the senate.

The Wisconsin board defines the conditions of reciprocity as follows: "The board may issue certificate to an applicant who presents sufficient and satisfactory evidence of having passed examinations in the basic sciences before a legal examining board or officer of another state, or of a foreign country, if the standards are as high as those of this state, and upon payment of a fee of fifteen dollars."

To a questionnaire which was sent to members of all the Basic Science Boards in the United States, a reply was received from Professor M. F. Guyer, Madison, Wisconsin. The questions asked were: 1. Has the law functioned as you had hoped or expected it would? 2. Have you any comments or criticisms for or against the law as it now stands? 3. In what ways do you think it might be strengthened by amendments? 4. Do you waive examination in the basic sciences of candidates who have passed the National Board of Examiners?

In his reply, Professor Guyer writes as follows: "Your inquiry of January 4 is at hand. Our basic science law has been in effect now for two and a half years. We give examinations every three months. Insofar as I know, the law has functioned exactly as it was expected to function. I had nothing to do with its creation and in fact knew nothing about it until I was asked by the governor to serve on the board of examiners. I feel that our law is about as good a one of the kind as can be enacted. Our law calls for examination in anatomy, physiology, pathology and diagnosis. My personal feeling is that bacteriology and hygiene might well either have been substituted for diagnosis or added to the other four subjects. We have not accepted candidates who have passed the National Board of Examiners because in the first place, while we are empowered to enter into reciprocity with other states and countries having boards similar to ours we have no warrant in directly accepting their examinations. In the second place, if we accept the National Board of Examiners in medicine, pressure would be brought to have us also accept the examinations of the National Board of Chiropractors and other such organizations and in my opinion this would defeat the very purpose of the law which is to keep out all practitioners except those who are well trained in the basic sciences. So far we have conducted eleven examinations. In these examinations 344 individuals have passed and 41 have not passed".

The Nebraska Basic Science Law which was passed in 1927, is a model in many respects, not the least of which is its freedom from unnecessary and extended explanation of the provisions which it covers. Some of the more important provisions of the Nebraska Basic Science Law are as follows:

"Section 1. Basic Sciences Defined.—No person shall be eligible for examination or permitted to take an examination for a license to practice the healing art or any branch thereof, or granted any such license, unless he has presented to the Department of Public Welfare a certificate of ability in anatomy, physiology, chemistry, bacteriology, pathology, and hygiene (hereinafter referred to as the basic sciences), issued by the State Board of Examiners in the Basic Sciences.

Section 2. For the purpose of this Act, any license authorizing the licentiate to offer or undertake to diagnose, treat, operate on, or prescribe for any human pain, injury, disease, deformity, or physical or mental condition is a license to practice the healing art.

"Section 3. Board, Appointment, Term.—The Department of Public Welfare shall appoint a State Board of Examiners in the Basic Sciences (hereinafter referred to as the Board), consisting of five members, who shall be appointed one for one year, one for two years, one for three years, one for four years, and one for five years. Upon the expiration of the term of any member, the Department of Public Welfare shall fill the vacancy by appointment for a term of five years. Upon the death, resignation, or removal of any member, the Department of Public Welfare shall fill the vacancy by appointment for the unexpired portion of the term. Every member shall serve until his successor is appointed and qualified. The members of the Board shall be selected because of their knowledge of the basic sciences aforesaid. No member of the Board shall be one who is licensed to practice the healing arts or any branch thereof.

"Section 4. Organization of Board, Per Diem, Expenses.—The Board shall meet and organize as soon as practicable after appointment. It shall have power to elect officers, to adopt a seal, and to make such rules as it deem expedient to carry this Act into effect. Each member of the Board shall receive Ten Dollars per diem and actual Expenses, when actively engaged in the discharge of his duties. The compensation of the members and the other expenses of the Board shall be paid out of the fees received from applicants.

"Section 5. Examination Fees.—The fee for examination or any re-examination by the Board shall be Ten Dollars. The fee for the issue of a certificate by authority of reciprocity, as provided herein, shall be Fifteen Dollars. All fees shall be paid to the Department of Public Welfare by the applicant at the time of filing application.

"Section 6. Examinations, Where Held, Re-examinations.—The Board shall conduct examinations at such times and places as it deems best. Every applicant, except as hereinafter provided, shall be examined to determine his knowledge, ability and skill in the basic sciences. The examination shall be conducted in writing, in such manner that the application shall be known by number only until such manuscripts are read and the proper grade determined. If the applicant receives a credit of seventy-five per cent or more in each of the basic sciences, he shall be considered as having passed the examination. If the applicant receives less than seventy-five per cent in one subject and receives seventy-five per cent or more in each of the remaining subjects, he shall be allowed a re-examination in such subject at the examination next ensuing, upon application and the payment of the prescribed fee. If the applicant shall receive less than seventy-five per cent in more than one subject, he shall not be re-examined within the period of one year next following his original examination nor unless he presents proof satisfactory to the Board of additional study in the basic sciences sufficient to justify re-examination, and he shall be required to be re-examined in all subjects.

"Section 7. Certificates, Requirements.—No certificate shall be issued by the State Board of Examiners in the Basic Sciences unless the person applying for a certificate submits evidence satisfactory to the Board that (1) he is not less than seventeen years of age; (2) he is a person of good moral character; (3) he was graduated by an accredited high school or school of similar grade, or possessed educational qualifications equivalent to those required for graduation by such an accredited high school; and (4) he has a comprehensive knowledge of the basic sciences as shown by passing the examination given by the Board, as by this act required.

"Section 8. Examination, When Waived.—The State Board of Examiners in the Basic Sciences may in its discretion waive the examination required by Section 7 when proof, satisfactry to the Board, is submitted, showing that the applicant has passed the examination in the Basic Sciences before a board of examiners in the basic sciences or a board authorized to issue licenses to practice the healing arts in another state, when the requirements of that state are, in the opinion of the Board, not less than those provided by this act, and if such state grants like exemption from examination in the basic sciences to persons granted certificates by the board of this state."

"Section 16. Callings Exempt.—This act shall not be construed as applying to optometrists, dentists, nurses, or midwives, practicing within the limits of their respective callings; nor other persons licensed to practice the healing art or any branch therof in this state when this act takes effect, nor to affect the practice of their religious tenets by members of any church provided they do not prescribe or administer drugs or medicine nor perform surgical or physical operations nor assume the title of or hold themselves out to be physicians or surgeons."

Concerning the Nebraska Basic Science Law, Dr. Woodward of A. M. A. Headquarters, Chicago, comments as follows: "I want to congratulate Nebraska on the effectiveness of its political organization. It accomplished something that I think may have tended to confuse the legal issue, particularly the interpretation of the reciprocity clause, but something that so far as I know has not been accomplished in any other state. In passing the basic science act, they tacked on to it a very considerable act longer than the basic science act that had no relation to the basic sciences, and yet they got that all through as a basic science act, and then (this is the remarkable part) within ten days repealed all that part of the act except the part relating to basic sciences and passed a new medical practice act. I think that is some legislative committee."

(Discussion of the Washington basic science law is omitted in the publication of this article.)

Doctor A. E. Comstock, Secretary of the Minnesota State Board of Medical Examiners, in a letter says, "Our Basic Science Board reports that they are not in reciprocation with any board at the present time. Recognition is only given candidates presenting a Certificate of the National Board of Examiners. In other words, diplomats of the National Board are given a Basic Science Certificate without further examination.

"Our yearly registration act which goes into effect this month is to provide sufficient funds for the prosecution of illegal practitioners."

Charles R. Maybury, Director of the Department of Licenses, Washington, writes as follows: "While this Law seems to be working out very well, there is a possibility that a change may be made to allow holders of National Board Certificates to register without examination. At the present time, no reciprocity is allowed in this Law. Aside from this we have no criticism to offer."

In the December number of the American Medical Association Bulletin, Dr. Woodward makes the following statement:

"Five states at present have basic science acts, and one, the state in which probably the principle originated, has what is equivalent to a basic science act. I say the state in which the principle of the basic science act probably originated, and by that I mean the state of Tennessee, because long before we heard anything of basic science acts, Tennessee had what was known as a board of preliminary examiners, to which all applicants had to apply for certificates before they could go before the professional board. The same principle is in effect there now, the only difference being that the statute has abolished the board of preliminary examiners and has required the applicants to apply for certificates to the department of education of the state. The five states having basic science acts at present are Connecticut, Minnesota, Nebraska, Washington and Wisconsin. In all of those states anatomy, physiology and pathology are regarded as basic sciences. In four, hygiene is named as a basic science. In two states chemistry is named as a basic science, with a provision in one state that it shall be so regarded after 1931. In two states bacteriology and diagnosis are classed as basic sciences and are included in the basic science act. I think we may fairly say that all of those are clearly basic sciences except possibly diagnosis which is, after all, an art rather than a science".

In Tennessee the board of preliminary examiners is no longer a professional board, their function having been transferred to the Department of Education. The provisions creating this board are as follows:

"Acts of 1915 as Amended by Acts of 1925. Section 1. Be it enacted by the general assembly of the State of Tennessee, That immediately upon the passage of this Act, the Governor shall appoint three educators of recognized standing, one from each of the three grand divisions of the State, who shall constitute the State Board of Preliminary Examination, the members of which shall hold office for two, four and six years respectively, and until their successors are appointed and qualified. The term of each member shall be stated on the face of the certificate of his appointment, and all vacancies that may occur in said board by death, resignation or otherwise shall be filled by the Governor."

The chief criticism of this board is that an examination is not definitely required, the State

Board of Preliminary Examination having the power to issue a certificate of qualification without examination. In case of doubt the board reserves the right to examine candidates. "Provided, however, if for any reason the State Board of Preliminary Examination is not satisfied that any applicant possess the qualifications required by this Act, it may cause such applicant to be examined as to his or her general educational qualifications by a committee to be appointed by the State Board of Preliminary Examination, and this examination may be held, even though such applicant possesses the diploma or equivalent thereof, as is by this Act provided."

It is still too soon to judge what results may be obtained through the execution of the Basic Science Laws. The following suggestions concerning them may not be out of order:

1. The basic science boards of examiners should be granted complete authority in the examinations in the basic sciences. The medical examining boards, whose function it is to examine candidates who present certificates of qualification in the basic sciences, and to grant licenses to them as practitioners after they have passed the professional examination, should exercise no authority over the basic science boards. The granting of reciprocity under the Basic Science Laws should rest exclusively in the Basic Science Boards so far as the basic sciences are concerned.

2. Basic Science Laws should not be retroactive. Reciprocity should be granted to all those who were licensed to practice before the basic science law went into effect, provided reciprocity was in effect in the states concerned before the bill was passed.

3. Basic Science Boards should be made up exclusively of qualified men not connected with a medical college either as members of the faculty, trustees, or governing boards. The Connecticut Law, which excludes trustees, directors, officers and employees of hospitals from membership on her examining board, seems somewhat drastic, provided the persons excluded by the Act are not licensed to practice medicine. No person engaged in the active practice of medicine should be a member of any basic science board.

4. All candidates for a certificate permitting them to apply for a professional examination should be required to pass an examination under the basic science board. Certificates through the waiving of an examination should not be granted to any institution no matter how excellent its standing may be.

5. Exemption from examination in the basic sciences should be made to physicians and surgeons of the United States Army or Navy, or United States Public Health Service, or other officers or employees of the United States while acting in the performance of their duties. For obvious reasons, exemption should not be granted to National Boards of Examiners.

6. There should be greater uniformity in the different states in the subjects included under the basic sciences.

7. All persons professing to diagnose and treat disease by mental or religious, or any other fantastic methods, should at least be required to pay a license fee, provided that compensation is received for such services. There is no valid reason why they should not be required to pass the basic science examination before they are permitted to practice their respective cults.

DEMENTIA PRAECOX*

MARIE GROTHE, M. D.,
Lincoln, Nebr.

Madam Chairman, Ladies and Gentlemen of the Premedical Departments

A positive devotion to your chosen vocation, coupled with a real desire to serve humanity, is a prerequisite to a successful medical career. The studies which now occupy your time furnish the basis or ground work upon which you will build the superstructure of your medical course.

All the different departments of scientific medicine are so inter-related that we dare not neglect any one of them if we would become thoroughly equipped workers in the medical field. The surgeon, the internist, the pathologist, the laboratory technician all work together; the radiologist and the clinician work hand in hand, and so on through the entire list.

Psychiatry occupies a unique and most important place, because when the mental processes become unbalanced there is an imbalance of metabolism, resulting in the over active katabolic or breaking down process of many functions and tissues. Psychiatry cannot be excluded from any other branch or department in medicine.

The story is told of a young man who entered the Boston School of Technology. After attending classes a short time he announced his intention of going home. When asked the reason he said: "I cannot do these problems. They are all different."

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*Address given before the premedical students of the University of Nebraska, December 15, 1927.

Our problems are many and varied but we must be bigger than our problems if we would succeed in the building of a 100% mentality of the human race which should be our highest ambition.

It is indeed encouraging to us older members of the profession, as our ranks are thinning more and more, to see so many new recruits entering. We, who have been the pioneers in the central western states, are glad that others are inspired to carry on when our work will be done.

In a certain sense the day for pioneer work in medicine will never be past. The spirit of altruism which dominated Dr. Lazier and Dr. Russell to the extent of sacrificing their lives in the interest of medical science, in order that yellow fever and malaria might be banished; the pioneer spirit of Surgeon General, Dr. Wm. Gorgas, which enabled him to clean up the Panama Canal Zone, making it habitable for white men in order that the Panama Canal might be built; the triumph of Madam Currie in discovering radium, the element whereby radiologists today in so many instances cure superficial and even deep seated malignancy; the recent discovery of the hemolytic infection of scarlet fever by Dr. Gladys Dick and her husband prove to us that the spirit and heroism of the true pioneer is still with us.

But to the subject of the hour. The term "Dementia Praecox or Schizophrenia", according to Bleuler, is a splitting of the personality. 33 1-3% of all the admissions to the state hospitals for the insane belong to this class.

They are young people, ranging in age from the early teens up to about 30 years. They come from all classes and conditions of people.

The trend, or tendency, to dementia praecox is not primarily developed from environment but from an inherited tendency.

Wolfsohn, in Zurich, examined two thousand two hundred and fifteen cases of insanity, of which six hundred and forty-seven were dementia praecox cases.

90% of the 647 praecox cases had antecedents who were affected with mental diseases. There are four classifications of dementia praecox, the simple, hebephrenic, katatonic and paranoid. Symptoms of schizophrenia first appear in the form of shyness, associability and inability to keep up with their classes in school. They become eccentric.

The second or hebephrenic class: The patients develop marked delusions, hallucinations of sight and hearing, becomes noisy, resistive and destructive. They are incoherent in their speech, rarely completing a sentence upon any given subject.

The third or katatonic class of patient assumes peculiar, bizarre postures, is disoriented, apparently oblivious to his surroundings, often refuses to eat so that it becomes necessary to feed him.

The dementia praecox patient of the fourth division or Paranoid classification has fixed delusions of a persecutory character—for instance, his family or best friends are cheating him out of his property, or they try to poison him or they charge his body with a high voltage of electricity. He also entertains delusions of grandeur, fancies himself to be some person of high political or social position or authority, and at the same time pleads to be permitted to leave the hospital or for some slight favor. He imagines himself to be immensely rich, owning vast estates, fleets of ships, gold mines, etc.

I well remember when the late Dr. D. R. Brower, Professor of Psychiatry in the Northwestern University, took the class over to Dunning, Illinois, in order to demonstrate to us the different classifications of insanity. A man of the Paranoid classification, of dementia praecox, who had the delusion that he was the owner of the world's largest fleet, offered to take us all around the world in his fleet of ships, which was a striking, yet not an uncommon type of delusion entertained by the paranoid.

Prognosis: While some dementia praecox cases clear up at least temporarily, they usually have relapses.

Dementia praecox being a disease of youth and early adult age, physicians should have the concerted cooperation of the laity. Early detection of symptoms of dementia praecox in school children should be made possible by the appointment of a competent psychiatrist for that work, in order that these patients may have early hospital care.

We believe that the very complex, strenuous life of the young people of today, which they still further accentuate by late hours, thereby losing the necessary eight hours of sleep, not infrequently becomes the exciting cause of bringing the inherited tendency to the surface.

Habits of life also either add to or diminish the sum total of a well balanced mind without which efficiency is minimized if not totally lost. We should see to it that we are always our own best companion; by living an open, frank, brave, clean life we will be enabled to achieve much.

During the summer months it was my privilege to spend a brief vacation on the Pacific Coast. While there I was a guest at a dinner where a number of influential business men were present. The subject of outlawing war was under discussion, and it was the unanimous opinion that war ought to be abolished—regret of our failure thus far was expressed by some. However, one of the company, as a sort of an afterthought and a desire to reconcile us to the present status, said: "Well, after all, if we did not have war every once in so many years the world would become too crowded—we could not care for all of them". We asked the question: "Would it not be more sane to conserve our best and finest young men instead of sending them off to be sacrificed in the interest of commercial greed, international or otherwise?"

Eliminate by the operation of natural laws the hopelessly insane, the feeble minded and the repeater in crime. This, we think, would go a long way toward the upbuilding of a 100% normal mentality.

We are in the habit of speaking of the masters in Art, Science, Literature, etc. There was one who was preeminently, nay, absolutely the Master of Life. We quote him who said: "Offenses must needs come, but woe to him through whom the offense cometh. It were good for that man if he had not been born" .

SKULL FRACTURES: THEIR CLASSIFICATION AND COMPLICATIONS

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It takes but a casual survey of the literature on this subject to find little similarity in the classification of fractures of the skull. Classifications have been made exhaustive in detail, or brief in their simplicity. In general, they follow a few common paths, i. e., whether they are linear or depressed, simple or compound, mild or severe, favorable or unfavorable as to outcome, etc.

Vance(1) has observed that fractures follow more or less well defined rules. They are almost always produced by the application of violence to the vault, which causes the skull to change its shape, so that the bone becomes especially flattened at the site of impact. The fracture lines generally start at this point, as it is here that the greatest strain is thrown on the continuity of the cranial bones.

Fractures of the skull in most instances run from the vault to the base, though sometimes they travel along the vault instead. In the base, the fracture lines generally select the bed of the fossae between the strong masses of bone that form its boundaries and for the most part, are directed toward the central point of the skull. The fractures also tend to run in the direction of the line of violence. When the point of impact is in the back of the head, the direction is back to front. When the force strikes on the side of the head, the fracture runs to the opposite side of the head and if the contact is in the frontal region, the fracture is directed posteriorly.

In general, the fissure in the bone has a tendency to follow the lines of least resistance. An expanse of skull with gradual curvature is less resistant to violence than an area of bone with sharp curvature, and the fracture most often seeks out the former unless other factors are present which modify its course.

Vance classified skull fractures in the following manner:

I. Involving both vault and base,
  Posterior,
    Linear, or
    Composite
  Lateral,
    Linear, or
    Composite
  Anterior,
    Linear, or
    Composite
II. Vault fractures.
  Linear
  Composite
  Depressed.

Rand and Nielsen(2) go further into detail and classify the fractures as to location, as follows:

Frontal
Anterior parietal
Posterior parietal
Occipital
Temporal
Frontal and anterior parietal
Frontal and temporal
Anterior and posterior parietal
Anterior parietal and temporal
Posterior parietal and occipital
Posterior parietal and temporal
Frontal, anterior parietal and temporal
Occipital and posterior parietal and temporal
Occipital and temporal
Frontal and parietal and occipital
All either right or left.

These men, however, differ with Vance that there is a definite rule that fractures follow. They maintain that there is no constant direction of fracture and that, contrary to popular belief, fracture lines traversed the thicker parts of the calvarium as often as the thinner, and not infrequently invaded the so-called buttresses at the base.

Sachs(3) presents a classification which is much more simple and consequently more serviceable:

1. Compound fracture of the skull, with or without rupture of the dura.
2. Simple depressed fractures.
3. Intracranial hemorrhage.
4. Contusion and laceration of the brain.
5. Edema of the brain.
6. Rupture of the arachnoid and escape of cerebrospinal fluid into the subdural space.

This grouping is advantageous in that it tends to center the point of interest mainly on the intracranial contents rather than on the damage of the cranium itself. He states that, "the first and most important point always, to keep in mind in every fracture of the skull is, what has happened in the intracranial cavity".

Carter(4) gives a still simpler classification, principally from the standpoint of observation. He divides the skull fracture cases into:

1. Those whose injuries are incompatible with life and who rapidly die.
2. Those who show only mild degrees of injury and who never present alarming symptoms.
3. Those wherein the outcome is problematical and management is difficult.

Blahd's classification(5) is quite similar to that of Carter's, but groups together the fracture and the complications:

1. Fracture of the skull without brain complications.
2. Fracture of the skull with complications.
3. Brain injury without fracture of the skull.

Gray(6) gives a rather lengthy classification which, however, is complete in that it deals with the type of fracture, damage to the brain, and complications:

1. Fracture with massive brain injury with evidence of rapid exhaustion of the medullary centers and death within from one to several hours after injury.
2. Fracture with definite evidence of middle meningeal hemorrhage.
3. Simple or compound depressed fracture, with localized brain contusion and with or without indriven bone fragments.
4. Fracture with classic manifestations of rapidly increasing intracranial pressure, which are well within the period of medullary compensation.
5. Fracture with definite evidence of brain injury, exhibiting no classic findings of acutely increasing intracranial pressure, yet of the type that experience has shown liable to develop increased intracranial pressure as the result of accumulation of fluid.
6. Fracture with so-called concussion with no evidence of gross brain damage.
7. Depressed fracture of a mild degree, with no symptoms.

That fractures of the skull are not vastly more frequent, is due to various factors, among them are the rounded shape of the calvarium, causing blows to glance off; the division of the separate bones into inner and outer tables, with comparatively spongy diploe intervening; the density and mobility of the scalp; the sutures interrupting the transmission of violence; the curved thickenings, which like buttresses strengthen the skull externally and extend on each side, through the supra orbital ridge and the upper border of the temporal fossa to the mastoid process, and thence to the occipital tuberosity; and the mobility of the head on the spine.

Skinner(7) has observed that fractures of the vault are usually due to direct force and that fractures of the base are either extension of fractures of the vault or are due to indirect violence, as by penetrations of the nasal, orbital or pharyngeal roofs by a foreign body.

The type of fracture is of much prognostic value and usually gives one a clue as to the possible complications. The simple or depressed fractures of the vault present the best prognosis. The compound cominuted depressed fractures, with extensive cortical lesions and associated basilar injuries are of the most grave prognosis. Here there is added danger of infection with the possibility of meningitis.

According to Blahd(5), the injury to the brain or its blood vessels may be either immediate or remote in its effects. Immediate injuries are due to laceration, edema and hemorrhage, and the remote injuries are in the form of gliosis, scar formation, cyst formation, etc.

The edema, Downs states, is the easiest to provoke and is nearly always present. Hemorrhage also very frequently occurs and the effects of these two, edema and hemorrhage, are similar in that they are both apt to produce acute cerebral compression. The central nervous tissue is as incompressible as water and cannot be displaced in one direction without a compensatory displacement in another direction. The brain, however, being vascular, can be changed in size and shape to a limited extent by the expression of blood from its capillaries.

Some illuminating experiments demonstrating the effects of cerebral compression have been performed by Kocher, Hill, Cushing and others(5). It is possible to produce almost accurately the results of acute or cerebral compression experimentally. The introduction of a fluid into the cranial chamber of an animal at first produces venastasis with marked congestion and cyanosis of the cortex. As more and more fluid is introduced, the artificial pressure gradually approaches the arterial pressure of the cerebral vessels and finally overcomes it, producing cerebral anemia. If the anemia remains confined to one hemisphere, as it frequently does, the other hemisphere, the medulla and the cerebellum, inclosed in separate compartments by the falx cerebri and the tentorium, may continue to function uninterruptedly, but if the anemia is communicated to the base, a situation fraught with the gravest dangers immediately arises. The vital centers in the medulla on account of the lack of oxygenated blood no longer functions properly. The respirations become shallow and rapid. The pressure falls and the pulse rate becomes accelerated. If this state of affairs is permitted to exist, the intracranial pressure soon rises higher than the arterial pressure and death ensues from respiratory paralysis. The anemia, however, stimulates the vasomotor center to renewed activity and by slowing the pulse rate, chiefly through the contraction of the splanchnic vessels, forces the arterial pressure to a higher point than that of the intracranial pressure. As the intracranial pressure is again increased by the introduction of additional fluid into the cranial chamber, the same phenomenon is repeated. This may be continued until the arterial pressure rises from two to two and a half times the normal level. Death finally occurs from exhaustion of the vasomotor center and consequent paralysis of the other centers due to the lack of proper blood supply. The heart completely severed from its central control, often continues to beat for several minutes after respiration has ceased.

Another complication that develops directly or indirectly from the edema and hemorrhage is the obstruction to the normal flow of the cerebrospinal fluid. There cerebrospinal fluid is probably secreted in the ventricles by the choroid plexus. The fluid finds its way from the lateral ventricles through the foramen of Monroe to the third ventricle, then along the aqueduct of Sylvius to the fourth ventricle. In the roof of the fourth ventricle, posteriorly, is the foramen of Magendie and in each lateral recess, the foramen of Lushka is found, through which the fluid escapes to the large cisterns beneath the arachnoid. There are cisterns of the Sylvian fissure, optic chiasm, interpeduncular space, pons, medullary region, and the great vein of Galen. The fluid rises through the incisura tentorii to be distributed over the cortex of the cerebrum. This is constantly being absorbed, mostly by the arachnoid villi, into the dural sinuses, where there is no obstruction to its circulation.

The cerebral and spinal subarachnoid systems are freely connected with each other, allowing artificial drainage of the cerebral subarachnoid water-bed by the spinal route. Therefore, a slight swelling or hemorrhage of the cerebrum of midbrain blocks the cerebral subarachnoid spaces and the fluid cannot be absorbed along its natural channels. The fluid no longer rises above the tentorium, but collects in the basal cisterns causing direct pressure on the medulla and forcing the midbrain up, occluding further the narrow subarachnoid spaces in the incisura tentorii. The enlargement of the lateral ventricles forces the cortex of the brain still more against the dura and unless the excess of the fluid is withdrawn from below the tentorium, a dry and flattened cortex is found at operation or autopsy.

For the relief from these phenomena, Skinner(7), Carter(4), Downs(8), and others favor the spinal puncture which Jackson, in 1922, strongly advocated both as a diagnostic and therapeutic procedure. Sachs, however, opposes this measure as dangerous, in that the cerebellum may sink down on the medulla and death occurs in many cases, either immediately or soon afterward. He also cites two instances under his personal observation wherein death was attributed to lumbar puncture. Judging, on the other hand, from the many favorable reports of the routine use of spinal puncture in cases of skull fracture, this danger can be overlooked in view of the obvious good obtained in many cases.

The extent of hemorrhage naturally depends upon the extent of the injury. Intracranial hemorrhage usually begins with a blow which stuns the individual for a brief period. He then regains consciousness and seems normal, etc., and then gradually becomes drowsy and finally unconscious and may develop a partial or complete paralysis on the side of the body opposite to that on which the hemorrhage occurred. The presence of focal or even more generalized paralysis serves to differentiate in part edema from hemorrhage.

In speaking of lacerations, Blahd states that they are hard to diagnose and there is little to do if one could diagnose them. The patients are brought in in various stages of unconsciousness and may show fracture of the vault or base of the skull and show some neurological signs as irregularity of the pupils, pathological reflexes on one or both sides, slow pulse, Cheyne-Stokes respiration, and rarely convulsions. The blood presssure does not rise unless there is associated progressive hemorrhage. The severity of the symptoms depends on the amount of laceration and contusion and also on the amount of cerebral edema which is nearly always present.

Perhaps the next most frequent complication is that of meningitis, if we can exclude shock as a complication. This occurs most generally when there is some portal of entry created by the fracture, through which organisms can pass. Rand

and Nielsen reported seven cases of meningitis in fatal cases with the portal of entry as; left socket cribiform, from a compound comminuted fracture involving the frontal sinus, ethmoid and cribiform plates; bleeding right ear, from a basal fracture, three cases; hematogenic brain abscess, left temporal, from fracture of right parietal and fracture involving the frontal sinus, ethmoid and from fracture extending to frontal sinus; right ear, from a linear parietotemporal fracture to the auditory canal. In all the cases the patients were young, ranging from eleven to thirty-two years of age. The onset of the meningitis was from fractured mandible; frontal sinus, ethmoid. etc., two to fifteen days.

Skinner reports the following complications: Meningitis, 2; facial paralysis, 1; acute encephalitis, 1; headache and dizziness, 5; impaired hearing, 2; numbness on right side of the body and impaired vision of the right eye, 1; aphasia, 1; traumatic neuroses, 2; epilepsy, 1; osteomyelitis, 1; post traumatic insanity, 2.

Vance, in reporting the causes of death in a summary of 507 cases, listed them as follows: Cerebral concussion, 139; exhaustion, 14, wherein the obvious cause of death could not be found and many were elderly people in a low state of vitality; terminal lobular pneumonia, 27; cerebral compression, lacerations of the brain and subdural hemorrhage, 156; meningitis, 48; operative procedures and post-operative shock, 4; epileptic convulsions, 3. He adds further that deaths may be due to injuries elsewhere in the body or to causes unrelated to the fractures of the skull.

It is interesting to note from the preceding report the frequency of pneumonia as a complication. Vance observes that persons with fracture of the skull who survive their injuries more than two days not infrequently develop lobular pneumonia as a terminal condition. Anatomically, the pneumonia was of the hypostatic, lobular type. In the early stages it was often seen in the form of small granular gray-red areas of consolidation, grouped around the small bronchioles. Later these areas tended to coalesce and a pneumonia similar to the lobar type was the result. In some of the cases, pneumonia might have anteceded the accident, and in the majority of cases, the patients were never able to rally against the primary shock.

The finding of convulsions in skull fracture cases seem to be comparatively infrequent. When they do occur they are often a forerunner of epilepsy. Sharpe believes that while a small number of these patients develop epilepsy later, it is not so much a question of possible cortical adhesions, depressions of the vault or foreign body spicules, but rather in addition a chronic increase in the intracranial pressure and especially in the patients of lessened nervous stability.

Among the other more remote forms of complications are those of scar formation and brain cysts. These might result from the increased pressure, acting as an irritant to the brain and thereby stimulating the overgrowth of the glia tissue.

SUMMARY

1. There is little similarity in the classification of fractures of the skull.
2. Fractures tend to follow more or less well defined rules, most always the result of the appliance of violence to the vault.
3. The most common immediate complications of skull fracture, are edema, hemorrhage and lacerations, while meningitis, pneumonia, epilepsy, convulsions and paralysis are occasionally the sequelae of this condition.
4. The effects of cerebral edema are those of increased pressure and obstruction to the flow of cerebrospinal fluid, eventually resulting in compression of the brain against the calvarium.

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REGENERATION OF BLADDER FOLLOWING RESECTION

On the basis of their experimental study, Herman L. Kretschmer and K. E. Barber, Chicago (*Journal A. M. A.*, Feb. 4, 1928), assert that extensive resection of the bladder is followed by the formation of a new bladder. The newly formed bladder fulfills completely the function of the old bladder in that it is capable of retaining the urine for many hours and of discharging urine in the normal manner. Incontinence as a permanent complication does not follow even the widest type of resection. From the histologic picture and its close resemblance to the normal bladder, it would appear that the newly formed bladder is the result of regeneration.

WHY DO WE HAVE COUNTRY DOCTORS?

Is there any good reason for him at all? What excuse has he to offer for existence? In these days of good roads and rapid transit why does he continue to muss up medical things at all? Does he need to make any excuses? Is he a useful member of society? Does he aid and benefit his fellow man in any way or is he a "tin-can" on the tail of medical progress?

There has been a great deal of discussion in recent years relative to the "Family Doctor" and the "Specialist" and so far as I know there hasn't been any satisfactory settlement of the question.

I do not suppose that I can add anything that will help to settle the question, but I do want to impose on you long enough to air my observations of a quarter century or more as a country doctor.

It has been my lot and privilege to associate with country doctors for more years perhaps than I like to admit and it has been my good—or ill—fortune to be a member of that noble, self-sacrificing, honorable, band of men, and as such, I am willing to admit that I may be biased in my views concerning them.

It is, of course, from the very nature of a country doctor's life, impossible that he should be up to the last moment on all things medical.

He has periods of activity in his busy life when he does not get the time or opportunity to look inside a medical book or journal for weeks at a time. At his most leisure periods he is always a busy man. He often goes weeks at a time without conference with another medical man and then only for short periods of time which are inadequate and unsatisfactory for threshing out some of the grave problems with which he is confronted.

After a very few years he begins to feel that perhaps he isn't quite up on all medical questions and he feels a reluctance to rise in the presence of a specialist and discuss any topic in the specialist's field nor is he really fitted to do so.

At the present time there are so many specialties, and specialists, that the poor bewildered country doctor sometimes really wonders if he has any right at all to classify himself as a doctor.

All this isn't so strange when we stop to consider that in the past 25 years there has been more scientific progress, in general internal medicine, than was made in the 2500 years preceding.

About all that the average country doctor can reasonably be expected to do is to obtain and maintain a reasonable general idea of medicine and a reasonably safe and sane estimate of his own deficiencies. I have always maintained and I still maintain that the man who knows his limitations is a safe man to trust with almost any case because he knows when to call a proper consultant. If a doctor knows enough to properly classify his cases, and when, and where, and who, to call for help to get the best results, I believe he is both safe and sane.

The country doctor, as I have stated elsewhere, is a busy man.

He it is who is first to see and be consulted about almost every ill that human flesh is heir to, in the community in which he lives. He it is who is first to see and give first aid to all sorts of injuries from the most trivial scratch to wounds of the first magnitude. He is called to see and treat cases in every branch of medicine and surgery and under conditions that are usually far from ideal. In fact, ideal conditions are seldom or never obtainable in a country doctor's practice, and when I contemplate the marvelous results he so often obtains I feel like taking off my hat to him and eulogizing him in similar words to those used by Robert G. Ingersol in his summing up of Shakespeare's intellect.

I do not feel, however, that the specialist is to be shunned, avoided, or envied, by the general country doctor.

I believe the specialist fills a place in medicine that we would be lamentably worse off without. I believe that the present rapid strides in medicine are due to the collaboration of all the specialists towards a common goal for the good of all mankind.

I believe that the country doctor should call a specialist whenever he has occasion to do so.

I do not believe, however, that our medical meetings should be entirely devoted to the various specialists, and on the other hand, I think it is for our best interests to have them with us frequently. I believe that we should feel more free to discuss the subjects these men present to us and tell them how we haltingly, and lamely, treat similar cases and why we do it. I believe that such discussion on our part, would be the means of bringing greater benefit to us in other similar cases and if any specialist should hold us up to ridicule, contempt, or scorn, in our efforts to do the best our circumstances allows, that he, and not we, should be relegated to the scrap-heap.

I think there can be no doubt in the mind of any one, conversant with present day facts, but that there are many very good reasons why we should have country doctors; that his excuse for existence is the fact that he serves his fellow man; that he should continue to clutter up things medical because humanity in general would be worse off without him. In fact, I do not think it is any more necessary for the general country doctor to make excuses than it is necessary for the specialist to make excuses for limiting his endeavors to one narrow field of medicine.

I do not think the community, or the country at large, would be as well served as it is at present if we were to eliminate the country doctor and each one of us to specialize in some certain field of medicine.

I cannot help but feel that he is, decidedly yes, a useful member of society, that he does benefit his fellow man and I hope, is not a tin-can on the tail of medical progress.

I believe, as I have always believed, "that he who does the best his circumstances allow does well and acts nobly. The angels can do no more".

It sometimes seems to me that, in our mad scramble for high-powered efficiency, sight is sometimes lost of our primary object in medicine, viz: the prompt relief of the suffering individual.

It seems to me, but, of course, I may be wrong, that this is the most potent cause of chiros, osteos, christian (un) scientists, and what-nots. The idea I am trying to bring out has been recently well illustrated, by Mr. Sidney Smith, in the comic section of our daily press, in the "Andy Gump" accident. The poor fellow had the misfortune to suffer a fractured leg and, due to the highly organized and intricately constituted personnel of a modern hospital with its superintendents, head nurses, under nurses, and student nurses, not to mention its staff of physicians, the poor patient was passed from one to another without being properly cared for until long after he had been interviewed by representatives of the daily press, members of the legal profession, etc.

A highly organized institution may be very thorough and competent in its final rendition of services to the patient, and we will grant that the most scientific methods of treatment are ultimately rendered the patient, but on the other hand, human nature is very much the same the world around, and the injured person and his friends want service at once and they don't always stop to ask whether or not it is going to be of the most scientific nature and if the average doctor is not equipped to render it the public will go where it can be had with a certain amount of sympathy along with it. I believe this thought well worth the serious consideration of the medical profession as a whole.

The country doctor must be ever ready to answer calls, night or day, sunshine or storm, mud or dust, and he cannot pick his cases. He must take whatever befalls him and he must render relief, or figuratively speaking, off goes his head.

In any considerable community this one fact alone is excuse enough for him being there, and he doesn't need any other.

He may be called to see a child in the last stages of strangulation from a laryngeal diphtheria where a prompt tracheotomy and the administration of antitoxin saves a life no matter whether he uses the finesse of a specialist in his operation or not, and where, to wait for a specialist to see the case would mean the sacrifice of a human life. That one case in a life time is sufficient excuse for a country doctor, if he needs an excuse.

He may be called to see a patient bleeding from a severed blood vessel, and seeing the patient about to collapse, take a pair of unsterilized forceps, grasp the bleeding vessel and save a human life. He may find himself so situated that it becomes necessary to pack a uterus to check a post partum hemorrhage and he may have to do it with insufficient help and none too careful preparation of patient and instruments, but he may, and I feel, often does save a human life by being available at the opportune moment.

Your specialist may, with his elaborate equipment, trained help, more thorough knowledge of a particular subject and his ability to discourse fluently about it, be able to do a more scientific job but it doesn't do much good to be an expert rifleman when you meet a grizzly bear unless you have your loaded rifle with you. The Indians, before the days of white men and their fire-arms, did meet and overcome the grizzly bear and if compelled to do so could do it again. Results are what the public considers.

It is because your country doctor *can* and *does* meet these emergencies and conquers most of them that he does, and must continue to exist.

It is because the country and the community would be worse off without him that we have the country doctor.

I hope you will pardon me if I relate an experience in my early professional life:

A man who was a helper in a lumber yard, had loaded up a load of lumber for a customer and it being a little muddy it was just about all the team could do to start the load so this helper grabbed a wheel and was using all his strength in helping to get the load started. In doing so his foot slipped and the muscular strain was sufficient to partially dislocate his atlas and it was very painful.

I was called to attend him and finding the condition proceeded to etherize him, grabbed him by the head and jerked his neck back into place and he never suffered any ill effects from it afterward.

I have since learned from some of my specialist friends that I was "the fool that rushed in where angels might well fear to tread" because I might just as easily have succeeded in completely dislocating his neck and killed him outright.

It is true we may often do some foolish things because we don't know any better. It is true that we may often err in judgment, and it is true that there is much room for improvement among us, but taken as a whole, I am inclined to the belief that the country doctor fills a necessary place in his community and that it is better for him having lived.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS*

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The chain of thought which will lead a physician to the successful early diagnosis of pulmonary tuberculosis must resemble the firmly fixed chain by which Aristaeus held Proteus when he changed in rapid succession into fire, flood, and a horrible wild beast. The links of the chain are composed of the constant thought "tuberculosis" no matter what protean sign or symptom the patient presents. In the case of practically every disease the physician must consider the possibility of tuberculosis. He should expect to be able to make an exact diagnosis of tuberculosis in at least two per cent of his clientele. Easy exhaustion, digestive disturbances, headaches, nervous irritability, insomnia, fever which at times may resemble typhoid, tachycardia, malaise, anaemia, weight loss, pain in the chest, local and general sweats, frequent throat clearing, fistulae, blood spitting, susceptibility to colds, dry or productive cough, disorders of menstruation, are some of the symptoms and signs which call for most careful investigation for pulmonary disease. The most important part of the study of each patient is the careful taking of the history. The next most important step is the close scrutiny of the patient by the trained eye of the clinician. It is a stigma on the medical profession that lay people who have been closely associated with the tuberculous, as in a health resort, can recognize a consumptive type long before many physicions can make an exact diagnosis. The toxin of the disease creates objective and subjective signs such as wasting of the neck muscles, flushed cheeks, glistening eyes, a delicate appearance, easy fatigue, temperamental disturbance and even a weakened voice; any of which should arouse suspicions of tuberculosis. On the other hand, advanced tuberculosis may be present in some people with absence of all such symptoms.

PHYSICAL EXAMINATION

Inspection will reveal a lagging of one or both lung apices.

Palpation enables a confirmation of possible lagging, determines the excursion of the chest wall, detects the increased or decreased vocal resonance, the position of the heart apex beat, which may be changed by a diseased lung, and the position of the trachea, whether misplaced to right or left. Percussion is valuable in detecting impaired resonance at the lung apex, and percussion with the tips of all five fingers, as advocated by Auenbrugger, who introduced the art, is very valuable over the bases of the lungs to bring out basal lesions, thickened pleura or pleurisy.

Auscultation is probably the most important means of investigation. Changes of the breath sounds such as prolonged, high-pitched expiration, quiet breathing and rales are to be noted. It is best to begin auscultation by placing the stethoscope in the lower axilla, and moving the bell upward after each expiration. To determine the presence of rales the patient should be instructed to breathe in through the mouth, then to breathe out and to give a slight cough with the last part of the outgoing breath. Rales are apt to be heard in showers, and usually occur after the cough at the time the breath is inspired. They should especially be sought at the apices posteriorly and above and below the clavicles. It must be remembered that occasionally the residual fractions of the broncho-pneumonias of influenza may for a while give rise to a shower of rales similar to tubercle.

X-RAY EXAMINATION

The x-ray films should always be inspected by the clinician. Special technic is needed to produce proper x-ray pictures of the chest and it is a serious matter that so many poor films are taken. The x-ray may indicate that tuberculous lesions found on physical examination are actually more extensive or at times less extensive. Areas of tubercle deposits are frequently found in healthy people at the roots of the lungs. The films should be carefully inspected for tubercle lesions in the parenchyma of the lungs.

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*From the National Tuberculosis Association.

Fluroscopic study is of value in noting the lung aeration and the excursion of the diaphragm. Early diagnosis rarely can be made by the fluroscope and, generally speaking, film study is the more essential.

LABORATORY EXAMINATIONS

Specimens of sputa should be taken and sent to a reliable laboratory. At times many specimens are necessary before a positive diagnosis can be made. Patients often relate that, suspecting their own conditions in spite of negative findings by their physicians, they have of their own accord sent sputa to public laboratories and the correct diagnosis have been made. There are no reliable blood tests for the detection of tuberculosis. An increase in the white cell count and a decrease, or at times increase, in the total lymphocyte element are at times suggestive.

TEMPERATURE STUDY

Any person suspected of pulmonary tuberculosis should be put to bed for at least a week and the temperature and pulse carefully studied. One or two temperature observations at the time of office visits are most unreliable. An afternoon or evening temperature of 99 or over needs explanation. The resting pulse should be normal in a healthy person. In patients with tuberculosis it is almost always accelerated.

TUBERCULIN TESTS

The skin tuberculin tests have no value in the diagnosis of adult tuberculosis. The subcutaneous test can be dangerous and should be used by experts only.

DIFFERENTIAL DIAGNOSIS

Almost any disease from hookworm to aneurysm may suggest tuberculosis. Repeated negative sputum findings should always lead to a careful search for bronchitis or bronchiectasis associated with infection of the nasal accessory sinuses. In such cases the rule should be to order x-ray pictures of the sinuses. Lung abscess, and rare chest diseases such as aspergillosis, streptothricosis and even syphilis are conditions the tuberculosis specialists are constantly watching for. Thyrotoxicosis is a condition which may resemble tuberculosis especially in weight loss and in fever and pulse variations. A definite increase found in the metabolic rate determines the diagnosis in favor of hyper-thyroidism. Possibly the greatest difficulty in differential diagnosis is found among patients in whom occult tuberculosis is suspected. They may have no cough and present no physical signs, and parenchymatous lesions of the lungs are not detected by the x-ray. In these people, most frequently women, a daily elevation of temperature is noted and also an accelerated pulse. A careful investigation must be made in regard to the thyroid gland, tonsils, teeth, gallbladder and pelvic organs before a diagnosis of occult tuberculosis is made. Tonsils should not be removed, especially in adults, unless a very careful study of the chest has been made.

The early diagnosis of pulmonary tuberculosis would be more often made if physicians would keep uppermost in their minds the frequency of the disease and their responsibility to be constantly alert to the possibility of tuberculosis in so many maladies for which they are consulted.

NEBRASKA UNIVERSITY HOSPITAL

CLINICO-PATHOLOGICAL CONFERENCE

A. D. DUNN, M. D., INTERNIST, AND A. J. MILLER, M. D., PATHOLOGIST.

W. W. Herrmann, Editor.

CASE NO. 23484. December 15, 1927.

A white man, age 47, weight about 125 pounds and about 6 feet tall, walked to the receiving room, August 17, 1927, complaining of general weakness and swelling of the lower extremities.

ONSET AND DEVELOPMENT: Nine or ten years before admission the patient had had an attack of quinsy following which his feet became very swollen. Following this he was sick and run down for several weeks before he was able to resume his activities and then was all right until eight weeks before admission. At that time he began having some dental work done, extractions, because his teeth were badly decayed, loose and the gums were infected. Following this he noticed that his feet began to swell again, being worse in the evening, better when he rested and almost normal in size in the morning. Since this time he has been up and down, gradually becoming weaker and his feet more swollen.

PREVIOUS ILLNESSES: Childhood: Measles, mumps and whooping cough. Adult: Pneumonia in 1915. He was sick for two weeks with a very high temperature and lost all of his hair. Injuries and operations: None .

HISTORY BY SYSTEMS:

Eyes: No burning, blurring of vision, blindness, itching or diplopia.

Ears: No discharge, tinnitus or deafness.

Nose: No history of rhinitis, discharge or postnasal drip.

Throat: Has frequent sore throats every winter, worse when young than at present.

Teeth: Have been very bad for a long time.

Respiratory: Pneumonia as above. Had asthma up to 1914 but has not been troubled since. No night sweats, cough or loss of weight.

Cardiac: No history of cardiac pain or palpitation;

edema as under onset and development. There has been no shortness of breath on exertion.

Gastro-Intestinal: Six years ago patient had a period of epigastric pains gnawing in character, noticed about 2-3 hours after eating and relieved by soda or food. He has had no discomfort for the past 6 years. Has a few very small hemorrhoids. Patient has had a diarrhea for the past few weeks which he ascribes to the medicine which his doctor gave him.

Genito-Urinary: Has no nocturia, frequency or burning on urination. Denies venereal infection. Has never noticed blood in his urine nor any particular change in the volume of his output. Edema as above.

FAMILY HISTORY: Father dead—pneumonia, 74. Mother dead—senility, 74. Two brothers living and well, one dead—typhoid. One sister living and well, three dead. No history of tuberculosis, cancer or mental disease.

PHYSICAL EXAMINATION:

Eyes: No exophthalmos, ptosis or strabismus. Pupils are equal and regular, react sluggishly to light and accommodation.

Ears: Hears a watch at 12 in. There is no deformity or discharge.

Nose: No obstruction, excoriations, crusts or discharge, mucous membranes are pink and moist.

Mouth: Teeth are very bad. A great many are decayed and there is much pyorrhea present. Breath is fetid. Tonsils are atrophic, not adherent. The anterior pillars and posterior pharynx are not injected.

Sinuses: No tenderness on pressure.

Lips: Have a purple cyanotic appearance.

Neck: The anterior cervical lymph chain is enlarged and easily palpable, not tender. A few posterior cervical glands can be felt. There are no visible pulsations. The thyroid is not enlarged.

Thorax: The A. P. diameter is relatively increased; the chest appears to be somewhat flattened on the right. Breathing is mostly abdominal. The supraclavicular fossae are very prominent. The excursion of the chest is very slight, the accessory muscles being brought into play on deep inspiration. Tactile and vocal fremitus show no change. The chest seems to be hyper-resonant; there are no areas of dullness. The complemental spaces are very small; a few moist rales are heard over both bases posteriorly.

Cardiac: Apex beat is in the 5th interspace, 7½ cms. to the left of the midsternal line. The left border of the heart cannot be outlined due to the conformation of the chest. No adventitious valve sounds are heard. The rate is 72 a minute and regular and the blood pressure 138/98.

Abdomen: Considerable distention, no palpable masses, tenderness or rigidity. There is a flat note on percussion in the flanks which shifts with change of position.

Back: There are a few areas of petechial hemorrhage over the back and some edema over the sacrum.

Genitalia: No discharge, scars or sores.

Extremities: No loss of power or range of motion.

Rectal: Negative.

Reflexes: Knee jerks somewhat sluggish, Babinski normal.

LABORATORY:

Urine	Specific Gravity	1.014
	Reaction	Acid
	Albumin	4+
	Sugar	Neg.
	Diacetic	Neg.
	Acetone	Neg.
	Microscopic	Granular casts 4+; R. B. C. 1+; occasional epithelial cell.

Blood	Hemoglobin	100
	R. B. C.	6,100,000
	W. B. C.	7,000
	Polymorphonuclears	70%
	Lymphocytes	29%
	Eosinophiles	1%

Blood culture negative—August 20, 1927.

Blood Non-Protein Nitrogen on August 20, 1927—72 mgms.

Blood creatinine—2.2 mgms.

Blood Wassermann—negative.

PROGRESS: The patient's condition during his stay remained about the same with a gradual decline. Some days he felt quite well and the next, after a night with little sleep, he would be very discouraged, weak and irritable. Urinary albumin ranged from 2+ to 4+, never being free. Granular casts were reported throughout in the daily urinalyses. Specific gravity ranged from 1.011 to 1.020. Pus cells, bacteria (cocci) and epithelial cells were seen in quite large numbers. Output ranged from 150 to 790 cc. per day.

Blood Chemistry	N. P. N.	Creatinine	Uric Acid
August 30	62.5		
September 7	93.0	3.7	4.6
September 19	108.0	3.5	
September 26	100.0	3.1	5.0
October 5	125.0	3.6	6.2
November 8	129.0	3.0	
November 14	135.0	4.5	

Blood	Hemo.	R.B.C.	W.B.C.	Polymorphonuclears	Lymphocytes	Eosinophiles
September 25	80%	6,250,000	7,000	59%	38%	2%
October 17	75%	4,650,000	7,600	65%	30%	2%
November 19	60%	4,600,000	11,480			

Kidney function 3% dye return in two hours on October 1.

An abdominal paracentesis was done on October 17 and 4,110 cc. of a clear straw colored fluid were drawn off. This contained some red blood cells, a few white blood cells, had a specific gravity of 1.007 and had about a 1+ albumin. The patient was relieved for several days by this procedure, his abdomen being less distended, but after that it began to fill up again. His condition at the end of a week or two was much the same as before except that there was a continual seeping of fluid from the site of the paracentesis wound which the patient complained made him very uncomfortable and prevented his sleeping at night. Blood pressure remained practically constant, 105-115 systolic and 80-90 diastolic. Temperature remained normal or subnormal throughout, going as low as 95.6 two days before death and 95.4 at the time of death.

X-RAY REPORT: "Stereoscopic studies made of the thorax demonstrate an asymmetrical thoracic cage with retraction of the interspaces, notably the 4th, 5th, 6th and 7th on the left. The right leaf of the diaphragm is quite wavy suggesting a possible congenital relaxation of the anterior right leaf or an increased subphrenic pressure. The costo-phrenic angle on this side is partially obscured. The left diaphragm essentially normal; cardiac shadow is rather peculiar and suggests a rotation with a marked tortuosity of the aortic arch. I do not perceive any definite evidence of a sclerosed atheroma. Broncho-vascular tree is accentuated on both sides, particularly on the right. There is one Ghons tubercle in the 6th interspace and posterior axillary line.

Conclusions: Arteriosclerosis."

Carleton B. Peirce, M. D.

Definite terminal symptoms began about one week preceding death at which time he developed intention tremors, began to be more drowsy, sleeping a good deal of the time, and he would stay awake only long enough to answer a question. Respirations were deep and regular, 16-20 per minute. On November 23 pulse rate was 72 per minute, respirations were irregular, deep and labored, ending with a gurgling sound in the throat. There has been a considerable loss of weight (120 pounds on August 31 to 106 pounds on November 2) and there has been some additional loss since November 2. Moist rales were heard throughout both chests. Heart tones were distant and a suggestion of a systolic murmur was heard. Ophthalmoscopic examination of the right eye only showed dilated vessels. The left pupil was contracted, the right dilated. He was unable to respond to questions at 9:15. At 10:35 the pulse was non-palpable, respirations were about 7 per minute and the gurgling was more marked in the throat. Exitus lethalis.

DR. DUNN'S DISCUSSION

Two interesting events stand out in the onset and development of the patient's illness. First, that ten years before admission he had an attack of quinsy sore throat followed by swelling of the feet and that he was sick several weeks at that time. Second, that eight weeks before admission, following some dental work, his feet began to swell again and that his course has been progressively downward since that time. Furthermore, it is of interest to note that some twelve years ago he had a severe pneumonic infection with a very high temperature followed by loss of hair. In short the patient has been decidedly susceptible to severe systemic infections.

Furthermore, there is a history of repeated sore throats early in life.

It is of interest to note that six years ago the patient had a stomach disturbance with epigastric pain of a gnawing character, coming on two or three hours after eating, with food ease and soda ease. While such a complex does not always indicate an ulcer and while the same sequence may occur in chronic appendix disease, in cholecystitis, or even in individuals who eat too much or too fast or smoke excessively, yet it will be of interest to see whether the pathologist will show us the marking of an old healed ulcer.

The physical examination of the chest gives us a classical description of emphysema. There are no findings given on which to base a diagnosis of a heart lesion. The petechial hemorrhages noted over the back do not necessarily mean endocarditis, but occur occasionally in acute nephritides.

Repeated examinations of the urine showed variations in specific gravity, albumin always present, casts, red cells and white cells. The quantity of the urine has varied and edema has been present. In other words we have the urinary findings of an acute nephritis.

The high hemoglobin and high red cell count in the first blood examination would suggest a polycythemia. It is to be noted that the blood counts were erratic. Undoubtedly there is a large personal equation in these blood counts and probably they have been made by different individuals. Blood counts are a common source of trouble. A clinician may rely on a count made by an experienced interne. To count blood accurately much practice and experience is necessary. Furthermore, it is necessary to keep in practice. It is much like piano playing. The failure to play or to practice for a period of time produces inaccuracy. Counts made by internes in hospitals are usually unreliable because the internes are constantly changing and about the time an interne has learned to count blood with some accuracy, he changes services.

Interne: All the counts around the hospital have been running in the neighborhood of 5,300,000.

Dr. Dunn: The counts at the office will average about 4,500,000. They are done by a technician accustomed to counting blood and who makes on the average four or five complete blood counts daily. Inaccurate reading of hemoglobins is also a source of trouble. I repeatedly see cases of secondary anemia which have been diagnosed pernicious anemia because the hemoglobin readings have been inaccurate. This brings us to the question of hemoglobinometers. The color standard must be fixed. This can best be accomplished in glass rather than in solutions which deteriorate. The Tallquist is a very inaccurate scale. The color standard is on paper and that varies. The size of the drop of blood used, its viscosity, the wetness of the area examined at the time of the examination are all factors to modify your reading. It is better to discard a laboratory test entirely than to utilize faulty observations as evidence.

The urinalyses establish a nephritis. The blood chemistry with the increased non-protein nitrogen, increased creatinine and uric acid with low phenolsulphonephthalein output establish kidney insufficiency. The absence of a history of polyuria, the normal blood pressure and the absence of arterial changes would exclude a chronic interstitial nephritis with an acute exacerbation. In other words we are dealing with an acute diffuse nephritis. The steady increase in nitrogenous retention with the symptoms described in the history suggest a terminal uremia.

We may sum up our diagnosis as follows:

1. Acute diffuse nephritis with terminal uremia.

2. Edema and ascites. On account of the low specific gravity, 1.007, of the ascitic fluid with a

1+ albumin, it makes it a transudate which belongs to those clinical transudates that occur as part and parcel of an anasarca.

3. Emphysema.

4. Chronic adhesive pleuritis, right — based on Roentgenological findings.

5. Acute heart muscle insufficency. Of course, this man's heart muscle failed at the finish. The heart muscle failure must have been toxic in nature. In other words a cloudy swelling would be expected at autopsy.

6. In addition one would expect to find cloudy swelling of the liver.

DR. MILLER'S DISCUSSION

The body was in a fair state of nutrition. There was moderate edema of the trunk and limbs. Lividity was very marked.

The peritoneal cavity contained 2800 cc. of slightaly cloudy, straw colored fluid. Smears showed it to contain many leucocytes, desquamated cells and a few organisms. The peritoneum around the paracentesis wound was swollen, soft and covered by a small amount of exudate. The peritoneum over the diaphragm was papular and mottled. The peritoneum elsewhere was smooth and glistening but edematous. There was no excess fluid in the chest cavities but there were pleural adhesions.

The heart was small. It contained no changes except some scarring from a former pericarditis. There were no defects in the heart valves or coronary arteries. There was a moderate amount of cloudy swelling of all viscera.

The lungs were emphysematous. Sections showed a number of ruptured air sacs.

The liver was small. The serous surface was roughened by small papules made by contraction of connective tissue. The sectioned surface showed a little congestive mottling. Microscopic study revealed nothing but chronic passive congestion, resulting in atrophy of liver cords. The mottling is the result of early sclerosis.

The spleen was small and contained a slight increase of connective tissue.

The pancreas was small. The surface was mottled by small, light blotches, quite characteristic of fat necrosis. Sections revealed some calcareous salts infiltrating these areas of necrosis. In places there was old scar tissue, indicating that this was an old process.

In the posterior wall of the duodenum just beyond the pylorus of the stomach, was the scar of a well healed duodenal ulcer. The duodenum, the gallbladder and the gastro-hepatic ligament were bound together by old dense adhesions, evidently the result of an inflammation extending from the ulcer to the surrounding tissues. The gallbladder contained bile tinged mucus and the cystic duct was entirely occluded. The pancreatic necrosis could not be traced to the duodenal ulcer.

The most interesting pathology was found in the kidneys. They weighed 100 gms. each. They were quite uniformly light colored with little areas of hemorrhage and congestion in the cortex. The capsules stripped readily, leaving a smooth surface. Microscopic study showed a diffuse inflammatory process that seemed to be localized to lobules of kidney tissue. Some portions of kidney substance were free from this inflammatory process. Capillary tufts were found disintegrating and infiltrated with lymphocytes. The tubules also were disintegrating and surrounded by similar cells. A few polymorphonuclear leucocytes were seen here and there. There was only a slight amount of vessel damage. Because of the involvement of all structures of the kidney and because it is not possible to trace the lesion to any one part of the tubular system, it is necessary to name it chronic diffuse nephritis. It is not called chronic because this lesion has existed for a long time; to the contrary, the lesion is young but it is of the type which may exist over a period of months or years. In this instance, however, the lesion was so extensive that it produced death earlier than usual.

The large vessels were particularly free from arteriosclerosis.

The brain was removed but nothing found in it except an excess of fluid in the meninges. The ethmoids and sphenoids were opened but were not remarkable.

To summarize the findings then, there is diffuse nephritis in its early stage; edema of the trunk and limbs, ascites; healed duodenal ulcer; old pancreatic fat necrosis; occlusion of the gallbladder duct; pleural adhesions; emphysema; and a secondary infection of the peritoneal fluid.

This patient's primary lesion was no doubt in the kidney. It is impossible to associate the kidney damage with any of the other conditions found, such as the healed duodenal ulcer, the healed pleurisy or the pericarditis. This type of kidney lesion may exist long enough to become chronic clinically but it had not done so in this case. There was no connective tissue and practically all of the kidney damage seen was comparatively recent.

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ROSTER OF OFFICERS

	Term Expires
Dr. B. R. McGrath, Grand Island, President	1928
Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

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Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

Dr. A. S. v. Mansfelde, Ashland, Honorary Chairman	
Dr. B. B. Davis, Omaha, Chairman	1928
Dr. Roy W. Fouts, Omaha	1929
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

ALL ABOARD FOR THE HASTINGS MEETING

The percentage of dues paid for 1928 is greater at this time than it has been for the last several years, which undoubtedly indicates an increased interest in medical organization and its work. We may, therefore, confidently look to the Hastings meeting with assurance that it will prove to be a record one in attendance and interest. The Hastings people have every confidence that they can entertain a convention such as ours,—let us make them show us!

It is interesting to note what men of mark say about medical societies and the duties of the profession toward medical organization:

"The profession universally, throughout the state together with the public, would be greatly benefited; and the public might gain a respect for the physicians which their continued presence cannot stimulate."—*Southwestern Medicine.*

"A stay-at-home member benefits neither himself nor his association; it is only through and by those members who do attend that a society coheres, endures and progresses as such; and only as the members give of their time and attendance can they reciprocatingly and abundantly receive that to which their membership valuably entitles them."—Waddington in *Medical Herald.*

"The well-conducted medical society should represent a clearing house, in which every physician of the district would receive his intellectual rating, and in which he could find out his professional assets and liabilities. We doctors do not 'take stock' often enough, and are very apt to carry on our shelves stale, out-of date goods. The society helps to keep a man "up to the times", and enables him to refurnish his mental shop with the latest wares. Rightly used, it may be a touchstone to which he can bring his experiences to the test and save him from falling into the rut of a few sequences. It keeps his mind open and receptive, and counteracts that tendency to premature senility which is apt to overtake a man who lives in a routine".—Osler.

HOSPITAL SERVICE IN NEBRASKA

An exhaustive study of hospital service in the United States is published in the *Journal A. M. A.* for March 24, 1928. From this we glean some interesting facts about the hospital situation in Nebraska.

Of hospitals classed as General, there are 91; Nervous and Mental, 5; Tuberculosis, 1; Maternity, 3; Isolation, 3; Orthopedic, 1; Cancer, 1;

Hospital Department of Institutions, 9; All Other Hospitals, 1; a total of 115.

The 91 general hospitals have 4,222 beds and an average of 2,399 patients, the percentage of occupancy being 56.8 as compared with 66.5 of occupancy of all the general hospitals of the United States. The 5 nervous and mental hospitals have a capacity of 4,426 beds with 4,270 patients. The orthopedic hospital has a bed capacity of 115 and an average of occupancy of 113.

The 115 hospitals have a combined bed capacity of 9,359 and an average of 7,104 patients.

Thirty-eight have physio-therapy departments.

There is a complete list of all the hospitals in the state that are admitted to the A. M. A., Hospital Register, giving name and location of hospital; the type of service rendered; the capacity; the average number of patients; whether the hospital is approved for training of internes; for residencies in specialties; and whether approved by the American College of Surgeons and its status regarding the training of nurses.

Seven hospitals are approved for interneships by the Council on Medical Education and Hospitals, and one is approved for residencies in specialties. A list of two approved laboratories are also noted.

NEBRASKA HOSPITAL FOR THE TUBERCULOUS

We often wonder how many physicians in the state are fully acquainted with the work the State Hospital for Tuberculous at Kearney is doing. This hospital is equipped to care for early cases and shows excellent results. It is unfortunate, however, that only about half of the cases sent are improvable. We hope that all the physicians in the state will keep this hospital in mind and advise early cases to go to Kearney. More than one-third of the counties (thirty-four to be exact), in the state have not sent a patient to the hospital in the past two years.

The treatment of tuberculosis is a long drawn out affair and patients must not be led to believe that two or three months will cure them. One of the reasons that the state provides this care is on account of the chronicity of the trouble.

Any patient who is unable to pay for his care is treated free of charge. A few patients are paying at the rate of from ten to thirty dollars per month as they are financially able. The state is anxious to give incipient cases every opportunity possible to get well. The cost for each patient per month to the state is about sixty-five dollars. The accommodations, food, treatment, climate, etc., at Kearney are excellent and any one in the beginning stage of the disease who is anxious and willing to cooperate can show very marked improvement. It is not necessary for a patient to change climate to get well, and unless the patient is well-to-do it is a mistake to consider such a change.

One building at the hospital is given over to the care of children and it is hoped that this provision will be taken advantage of to the fullest extent.

Any one who shows a general ill feeling, a chronic tiredness that is not explainable in another manner, who is losing in weight, who has a cough that hangs on, should be examined very thoroughly to determine whether tuberculosis exists and, if so, he should be advised to care for himself at once. Do not wait until the tubercular germs have been demonstrated in the sputum before making arrangements to send these people to a sanatorium.

Pneumo-thorax treatment is given regularly at the hospital at Kearney to selected cases and is meeting with quite good results in a large percentage of cases. The state hospital is also equipped with the quartz light.

Nine out of every ten of the EARLY cases of tuberculosis can be and are cured at Kearney if the patient is co-operative and remains under treatment a sufficient length of time. Not over five out of every ten are cured whose trouble is moderately advanced and practically none (perhaps one in every ten), is improved, if in the far advanced stage when reaching Kearney.

It is well to have at least a few months' training in a sanatorium even if the patient does not desire to remain permanently away from home.

Any information desired in regard to admission of patients, accommodations, etc., can be obtained by writing the Superintendent, Hospital for Tuberculous, Kearney, Nebraska.

—L. T. Sidwell, Supt.

PLANNING FOR STATE FAIR EXHIBIT

The State Fair Committee met with the State Board of Agriculture in Lincoln on March 9, relative to the Medical Association exhibit at the State Fair this fall. The State Fair Board of Managers was eager to cooperate with the Medical Association in every way in educating the people in the conservation of health and prevention of disease.

We were granted the use of the women's building for our exhibit and also the privilege of using the examining rooms and lecture hall in the afternoon. We believe this affords an opportunity to put over the value of periodic health examinations and to popularize it with the public. Our general plan is to have one applicant for this examination from each county within the state. The applicant to be selected and his history worked up by the County Medical Society Secretary. Each applicant will be assigned a special hour for examination at the fair where he will pass through the hands of several examining physicians and the opinion of his case rendered by a competent consultant.

At the same time in the lecture hall, which is apart from the examining rooms, there will be a series of 10 minute lectures going on every afternoon on the various phases of health conservation and disease prevention. Our health cards and charts will be shown in the rest room and there will be space for the pathological exhibits which so greatly interested the public last year. All lay organizations dealing in health will be housed with the Medical Association exhibit and we shall ask all those, who now exist with the approval of the Medical Profession, to join with us in educating the people in how to keep well.

The Nebraska State Fair is a great institution, second to none in the United States. Its gathering of 400,000 of our people is the largest of its kind during the year. The attendance is the most representative of our citizenship and the privilege granted us by this Board of State Fair Managers affords us the greatest opportunity to strengthen our position with the people. We solicit the cooperation of the entire Medical Society in making the State Fair and our health project a huge success.

E. R. Hays, Chairman, State Fair Committee.

THE CLIQUE

What is the Clique? 'Tis those who attend
All of the meetings, on whom we depend.
They never are absent unless they are sick—
These are the ones the grouch calls "The Clique".

These are the ones who are never behind with their dues,
Who come to the meetings and have their own views.
They'll serve on committees and never say die;
"The Clique" are the ones that always "get by".

We all should be proud of members like these—
You can call them "The Clique" or whatever you please.
They never attempt any duties to shirk—
These are "The Clique" that do most of the work.
But there are some people who always find fault,
And most of this kind are not worth their salt.
They like to start trouble, they seldom will stick;
They like to put all the work on "The Clique".

—**A. M. A. Bulletin.**

JEJUNOSTOMY, PRIMARY AND COMPLEMENTAL

A. I. MacKinnon, Lincoln, Neb. (*Journal A. M. A.*, Jan. 28, 1928), has performed a high jejunostomy many times for obstruction or postoperative ileus and allied conditions with most gratifying results. A patient in an apparently dying condition from untreated obstruction attains a state of apparent convalescence in a few moments after a jejunostomy performed under a local anesthetic. The only logical interpretation is that the terminal cause of the death is asphyxia. If death were due to a toxin, getting rid of the contents and gas and allowing the diaphraghm to function would not change the picture so quickly. After noting the prompt response of a patient to high jejunostomy in a few late cases of obstruction of the bowels, it occurred to MacKinnon that a tube introduced into the upper end of the jejunum at the close of some serious abdominal operation, as resection of the bowel, perforated ulcer, gastro-enterostomy or peritonitis, should prevent a postoperative ileus. This he found to be true. It fulfils two major requirements: First, it prevents ileus and eliminates gas distention and gas pains, and, second, it is a means for the introduction of fluids. Proctoclysis and hyperdermoclysis are feeble substitutes for a tube in the jejunum as a means of getting fluids into the patient. MacKinnon has given the name of "complemental jejunostomy" to this procedure.

CELIAC DISEASE

Celiac Disease (Chronic Intestinal Indigestion)—Eitology, Prognosis and Standardization of Treatment, by Louis W. Sauer, (*American Journal of Diseases of Children*, Vol. 34, No. 6, December, 1927, pp. 934-949.)

The author reports his experience in twenty-five cases of Celiac Disease in the last seven years, treated according to Howland's method as described by him in 1921. The article is illustrated by two tables, six charts, and five photographs.

The cause, he says, has not been demonstrated. It has never been produced in experimental animals. But the Celiac syndrome disappears when fresh cow's milk, carbohydrates and fats are omitted from the diet.

The onset usually occurs after the first year of life in children who are in relatively good health until the prodromal period. It has never been encountered in an exclusively breast-fed infant.

Celiac disease is characterized by a prominent, more or less doughy abdomen, relatively free from tympanities: by voluminous stools, often gray and semisoft: and by loss of weight or stationary weight, persisting for months or years without any discernible cause.

Retarded growth, cessation of walking, anorexia, vomiting, anemia, corpopedal spasm, and ascites were present in some instances, but were variable in degree.

He disagrees in the unfavorable prognosis frequently given, i. e., that of the patients still living many remain below normal physically after the acute symptoms subside. He quotes mortality rates varying from 50% to 10%. And no loss under the Howland regime.

He advocates the standardized three phased diet method of treatment. The first stage consisting of exclusive protein milk feeding; the second phase of an addition of small but increasing quantities of other protein, viz., milk curds, lean beef juice, cottage cheese, scraped beef and egg; and the third phase of addition of carbohydrates. Bread, potatoes, sugar, ice-cream, candy, cake, fresh milk, should never be added within the first year or preferably later.

The treatment is time consuming, covering a period of many months to two or more years.

The diet exerts a greater influence on the prognosis than the severity or duration of the disease.

—J. Harry Murphy.

TICKETS FOR THE A. M. A. MEETING AT MINNEAPOLIS

The annual meeting of the American Medical Association will be held at Minneapolis, June 11-15, 1928. Physicians will be entitled to the one and one-half fare rate by getting a certificate from agent when purchasing ticket for Minneapolis, which, when countersigned by the Secretary at Minneapolis and validated by the joint agent of the railroads, will entitle one to purchase return ticket for half fare. Tickets from Nebraska points will be sold from the 7th of June, good starting return journey not later than the 19th of June.

EDITORIAL PARAGRAPHS

Most medical men in a life-time have but one wife: take that one to the annual meeting.

National Hospital day occurs May 12, and should be generally and effectively observed.

It is reported that 2000 English speaking physicians pursued postgraduate studies at Vienna during the past four years.

A committee of physicians from the Lancaster County Medical Society brought a severe indictment of the sanitary conditions of the Lincoln City Jail.

The Abbott laboratories announce the acquisition of the John T. Miliken Co., of St. Louis, and has issued a new price list which can be had for the asking.

A party of physicians travelling under the auspices of the Inter-State Postgraduate Medical Association will visit the Omaha medical schools and their associated hospitals, June 6 and 7.

Too late for publication in this number came the minutes of the March 24th meeting of the Basic Science board, recognizing the principle of reciprocity in certain cases. Full report in next Journal.

The *Boston Medical and Surgical Journal*, February 22, celebrated its one-hundredth anniversary and coincident with this event the name was changed to *The New England Journal of Medicine*.

The organized Omaha profession keeps hammering at the County Hospital problem and expects results in the form of bonds voted to construct a hospital that will be a credit to the metropolis.

Omaha's Own Magazine—a trade review—for April, contained a 15 page illustrated feature article entitled "Omaha a Great Medical Center". It is a very creditable article and makes one wish everybody could see it.

Measles, whooping cough, chicken-pox and mumps appear to have a higher rate of incidence among children whose tonsils have been removed than among any type of children whose tonsils are still present, says *American Medicine*.

Fifty cases of rabies are reported to have occurred in Marin county, Calif., since last November. Rabies has been prevalent in southern California for several years. To counteract the epidemic the board of health has ordered all dogs not vaccinated, destroyed.

Dr. J. L. Greene, Hot Springs, Ark., former resident of Lincoln, sometime superintendent, Lincoln State Hospital and one time president of the Nebraska State Medical Association, spoke before the Lancaster County Medical Society, April 3, on "Some Cardiac Irregularities".

An estimate made by the American Road

Builders' Association indicates that 26,618 people were killed on the highways of the United States during 1927 and that 798,700 were seriously injured, and the economic losses were placed at $672,097,000.

Any ordinary physician—just any ordinary one—who read the first report on the illness of Chauncey Depew which said he had bronchial pneumonia but was not in immediate danger, knew at once that he would die within 24 hours—which he did. For prognoses that mean nothing, noted physicians in charge of noted men as patients, take first place.

Announcement has been made that the Maltbie Chemical Company of Newark, New Jersey, has contributed a grant for a research fellowship for the coming year to the Department of Chemistry of Princeton University. The research work to be done under this fellowship will be fundamental in character and will cover certain phases of the chemistry of creosote and creosote compounds.

Vilhjalmur Stefansson, Arctic explorer, who lived in his "friendly Arctic" on an unsalted meat diet for seven years without detriment to his health, is at present making an experiment to demonstrate the effect of an exclusive meat diet in the climate of New York city. He expects to continue the meat diet for six months if possible—and the experiment is well on the way toward the end of the first half of the period.

The Gorgas Memorial Laboratory Bill before Congress provides for an annual appropriation toward the support of the proposed Gorgal Memorial Laboratory to be built in Panama under the auspices of the American College of Surgeons. Central and South American countries will also be invited to participate in the expense of operating the laboratory. The Gorgas Memorial Fund of the American College of Surgeons will finance the plant.

The Black Death of the 14th century (bubonic plague with pulmonary infection) was the most terrible epidemic of historic times. Originating in eastern Asia, it passed through Asia and northern Africa to Europe, which it ravaged by sections from 1346 to 1353. The loss of human life in Europe alone is said to have been twenty-five millions. Petrarch, who witnessed the plague at Florence, declared that posterity would regard the description of all its horrors as fables.

The American Medical Editors' Association has appointed a committee to study and advocate a "Medical Journal Endowment Fund". It is suggested that there seems no very good reason why medical schools and hospitals should receive endowments while medical journals and those who run them, often at considerable sacrifice, should not look to share in a central endowment fund. Certainly medical journals constitute one of the greatest forms of medical education in the country and through the profession are of untold value to the health of the nation.

That physicians' welfare movements are contagious is evidenced by the fact that the physicians of Knox county, Nebraska, following the lead of the physicians of several counties in southern South Dakota have organized to fight deadbeatism. The slow pay and deadbeat class is to be reported to a central designated representative, monthly, and the collected information is to be passed on to all the physicians in the territory. With this knowledge before them physicians will decline service to slow pay persons who owe other physicians until the old bills are settled.

The *Journal of the Kansas Medical Society* for April contains an editorial entitled "Study by Proxy" in which is brought out the present day tendency of county and district medical societies inviting talent from distant places to furnish the programs to the entire exclusion of the work done by their own members. While it is regrettable that the local talent is not drawn out, the teaching value of outside talent bringing assembled facts and conclusions, concisely and attractively presented, from those who are experienced teachers or writers, is undoubtedly invaluable. Meanwhile, the local physician loses, by lack of application to study and lack of effort to prepare papers.

PROGRAM, ANNUAL MEETING, NEBRASKA STATE MEDICAL ASSOCIATION AND WOMEN'S AUXILIARY

PROGRAM

Auxiliary Registration at Clarke Hotel.

Auxiliary Reception—May 15—2:30 p. m., at the home of Mrs. E. C. Foote, 1111 North Lincoln Ave.

Wednesday, May 16, 10 a. m. Business Meeting, Women's Auxiliary at the Y. W. C. A.

Auxiliary Luncheon—1:00 p. m. Hastings Women's Club. ($1.25 a plate). Make reservations for lunch with Mrs. L. F. Egen, 1120 North Hastings Ave., Hastings, Nebr.

Program following luncheon.

May 17—10 a. m. Automobile Drive. Drive about the City.

May 15—7:30 p. m. Ingleside.
Screen.
Vaudeville by Bee Ruth Entertainers.
Dancing.
Ingleside Orchestra.
May 16—6:30 p. m.
Clark Hotel Ballroom—Annual Banquet.
Presidential Address—Dr. B. R. McGrath.

Prominent Speakers.

Bee Ruth Entertainers.

May 17. Drive about the City. Transportation, automobiles and taxicabs will wait in front of the Auditorium and Clark Hotel during the three days of the meeting for transportation of members. Golf courses for use of visiting members—players vouchered by the Secretary of the Adams County Medical Association.

SCIENTIFIC PROGRAM

Tuesday, May 15, 1928—8:30 A. M.

Invocation—Rev. George E. Newell.

Address of Welcome—Mayor William M. Nelson.

Response—Dr. B. R. McGrath, President, Nebraska State Medical Assn.

1. The Care of the Aged in General Practice—Dr. J. H. Downing, Rising City.
2. The Constitution and Disease—Dr. Arthur Sonneland, Norfolk.
3. The Application of Malarial Inoculation in the Treatment of Neurosyphilis—Dr. Alex G. Young, Omaha.
4. Allergy in Pediatrics—Dr. W. O. Coburn, Lincoln.
5. Public Activities—Dr. E. R. Hays, Falls City.

Tuesday, May 15, 1928—2:00 P .M.

I. Clinical Demonstrations (Surgical).

1. Three Cured Cases of Cancer of the Stomach—Dr. D. T. Quigley, Omaha. Discussion—Dr. G. B. Dent, North Platte; Dr. S. A. Campbell, Norfolk.
2. Infections Incident to the Beet Sugar Industry, With Case Reports—Dr. F. B. Young, Gering. Discussion—Dr. M. G. Wohl, Omaha; Dr. A. L. Cooper, Scottsbluff.
3. Brain Abscess of the Temporo-Sphenoidal Lobe and Cerebellum With Comments on Operated Cases—Dr. J. B. Potts, Omaha. Discussion—Dr. Alex Young, Omaha; Dr. Rodney Bliss, Omaha.
4. Thoracoplasty in Cavernous Tuberculosis—Dr. Clarence Emerson, Lincoln. Discussion—Dr. John C. Thompson, Lincoln; Dr. J. M. Willis, McCook.
5. Chronic Intussusception—Reports of Case—Dr. J. F. Langdon, Omaha.
6. Internal Derangements of the Knee Joint—Dr. J. E. M. Thomson, Lincoln. Discussion—Dr. H. F. Johnson, Omaha; Dr. J. A. Weinberg, Omaha.

II. Fractures. Treatment and Complications—Dr. Dean Lewis, Professor of Surgery, John Hopkin's Medical College, Baltimore, Md.

Wednesday, May 16, 1928—8:30 A. M.

I. Address—Medical Education—Dr. J. S. Welch, Lincoln.

II. Symposium. The Acute Abdomen.

1. The Acute Appendix—Dr. A. A. Smith, Hastings.
2. The Acute Gallbladder—Dr. A. J. Brown, Omaha.
3. The Acute Pelvis—Dr. C. L. Hustead, Falls City.
4. Acute Perforation of the Abdominal Viscera—Dr. J. E. Summers, Omaha.
5. Mechanical Obstruction and Congenital Pyloric Stenosis—Dr. S. O. Reese, Lincoln. Discussion—Dr. Max Emmert, Omaha; Dr. C. R. Kennedy, Omaha.

III. Significance of Foci of Infection in the Genital Tract and Their Relation to Chronic Disease—Dr. Gilbert J. Thomas, Professor of Urology, University of Minn., College of Medicine, Minneapolis, Minn.

IV. The Preceptor Method in Medical Education—Dr. J. Keegan, Dean University of Nebraska, College of Medicine, Omaha.

Wednesday, May 16, 1928—2:00 P. M.

I. Symposium—Poliomyelitis.

1. Symptoms—Dr. Floyd Clarke, Omaha.
2. Serology—Dr. E. C. Rosenow, Mayo Clinic, Rochester, Minn.
3. Epidemiology—Dr. W. H. Frost, U. S. Public Health Service.

II. Medicine of the Middle Classes—Dr. H. von Schulte, Dean Creighton Medical College, Omaha.

Thursday, May 17, 1928—9:00 A. M.

I. Clinical Demonstrations (Medical).

1. The Mal-nourished Child—Dr. Geo. Pinney, Hastings.
2. Circulatory Disorders—Dr. A. D. Dunn, Omaha.
3. Arthritis—Dr. A. Sachs, Omaha.
4. Bradycardia and Heart Block—Dr. Geo. Covey, Lincoln.
5. Aortic Valve Disease—Dr. W. D. McGrath, Grand Island.

II. Some Phases of Nephritis—Dr. Wilber E. Post, Clinical Professor of Medicine, University of Chicago, Medical College, Chicago, Ill.

Thursday, May 17, 1928—2:00 P. M.

I. Symposium. Obstetrics.

1. Pre-natal Care—Dr. R. S. Martin, Red Cloud.
2. Treatment of Toxaemies of Pregnancy—Dr. F. P. Murphy, Omaha.
3. Management of the Commoner Forms of Dystocia—Dr. H. J. Wertman, Milford.
4. Indications for Caesarean Section—Dr. E. C. Sage, Omaha.
5. Post Partum Care With Special Reference to Infections—Dr. D. D. King, York.
6. The Care of the New Born Babe—Dr. E. W. Hancock, Lincoln. Discussion—Dr. W. C. Becker, Lincoln.

II. DeLee's New Motion Pictures for Obstetrical Teaching.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER, DENVER, JUNE 18-20

The American Association for the Study of Goiter, consisting of Internists, Pathologists, Radiologists, etc., as well as Surgeons, will hold their 5th annual Conference on Goiter, in Denver, Colorado, June 18th, 19th and 20th.

Several men from foreign countries have signified their intention of attending. Professor Breetner of the Von Eiselberg Clinic, Vienna, and Professor Albert Kocher of Berne, Switzerland, have accepted places upon the program.

Addresses and discussions on Prophylaxis, Medical Treatment, Endemic Goiter and Cretinism from the Public Health Standpoint, are on the program for the first afternoon.

Pathology, various phases of Surgical Treatment, etc., will be considered the last two afternoons.

All members of state medical societies are invited to attend.

Dr. Gordon S. Fahrni of Winnipeg, Canada, is the president and Dr. Kerwin Kinard of Kansas City, is vice president.

AUXILIARY NOTES

Mrs. E. W. Rowe, of Lincoln, was recently appointed State Organization Chairman of the Woman's Auxiliary to the Nebraska State Medical Association. Mrs. Rowe is busily engaged in getting in touch with councilors, that each district may be given the privilege of affiliating with the state organization before the state meeting in May.

On March 21, Mrs. C. A. Rubendahl entertained Mrs. F. A. Long, Mrs. A. E. Gadbois, Mrs. S. A. Preston and Mrs. G. H. Walker at luncheon at her home, 116 South Fiftieth street, Omaha.

Three hundred guests attended the tea which the Woman's Auxiliary to the Omaha-Douglas County Medical Society gave on Wednesday, March 21st, at the Omaha Woman's Club in Omaha.

A musical program under the direction of Mrs. A. D. Dunn was followed by an address by Dr. H. W. von Schulte.

Mrs. H. C. Sumney, the president of the organization, received with the following ladies: Mesdames A. P. Overgaard, Clarence Rubendahl, Harold Gifford, J. E. Summers, A. F. Jonas, J. Harry Murphy,

J. J. Keegan and H. W. von Schulte. The following ladies were also in the receiving line: Mrs. F. A. Long, Madison; Mrs. G. H. Walker, Lincoln; Mrs. A. D. Munger, Lincoln; Mrs. S. A. Preston, Fremont; and Mrs. A. E. Gadbois, Norfolk.

Mrs. Adolph Sachs, Mrs. C. W. M. Poynter, and Dr. Jennie Calfass presided at the tea table and Mrs. J. F. Allen, Mrs. J. E. Pulver, Mrs. W. N. Pruner, Mrs. Glen Whitcomb, Mrs. Clyde Moore, Mrs. Chester Waters, Mrs. Claude Uren, and Mrs. G. E. Neuhaus assisted in the dining room.

Spring flowers were used on the tea table and in profusion throughout the other rooms where Mrs. Alfred Brown, Mrs. G. A. Young, Mrs. G. W. Dishong, Mrs. H. C. Miller, Mrs. H. B. Hamilton, and Mrs. Paul Ellis also assisted

Mrs. Rudolph Rix was the general chairman of the affair.

Mrs. S. A. Preston, Fremont, vice president of the Auxiliary, has been elected president of the Fremont Woman's Club.

Mrs. George W. Covey, as Lancaster County Hygeia chairman, hopes to place Hygeia magazine in every doctor's reception room by the end of May. For each subscription or renewal taken before that time the Auxiliary will receive half of the subscription price. Please send your check for a year's subscription ($3.00) to Mrs. Covey, 2534 Park avenue, Lincoln.

MRS. GEORGE H. WALKER, PRESIDENT, WOMEN'S AUXILIARY, NEBRASKA STATE MEDICAL ASSOCIATION.

! ! ! MAKE HASTE TO HASTINGS ! ! !

The next annual session of the Woman's Auxiliary to the Nebraska State Medical Association will be held in Hastings, May 15, 16 and 17, along with the meeting of the Nebraska State Medical Association. Extensive plans are underway to entertain the ladies throughout this three-day period. A most interesting program is being planned and our members may look forward to a pleasant time.

Mrs. Aaron S. Speier, Publicity Chairman.

A PUBLIC HEALTH ASSOCIATION

It has been thought for a length of time that a State Public Health Association would make for a more perfect correlation of the city, county, and town health organizations with the Bureau and with each other, thereby tending to the promotion of public health. Looking to this end, a considerable conference was had during March, and the consensus of opinion was that such organization should be instituted. For the consummation of such organization, a conference has been called to meet Monday morning, May 14, 1928, at nine o'clock at the Lincoln Hotel, Lincoln, Nebraska. All health officers and public health workers, and others interested in public health, are urged to attend and participate in its proceedings.

STATE BUREAU OF HEALTH,
By W. H. Wilson, Chief.

THE SOCIETIES

Meeting of the **Omaha-Douglas County Medical Society,** March 27, 1928.

Meeting called to order by President Overgaard.

Dr. Banister presented a case in which he had transplanted a section of ivory in the nose, showing the fine result of this work.

Dr. Earl C. Sage presented a case report of Leiomyosarcoma of the Uterus (fibroid) showing the pathological specimens and Dr. Miller discussed the microscopic findings, as illustrated by photo micrographs.

Dr. Ralph Luikart gave a case report of Carcinoma in the Body of a Fibroid, also showing the pathological specimen.

Dr. Luikart next presented a patient in whom endocarditis, mitral stenosis and aortic insufficiency complicated pregnancy. Dr. A. D. Dunn discussed the physical findings.

Dr. J. Jay Keegan read the report of the Public Affairs Committee relative to the New County Hospital. There was discussion by Drs. G. A. Young and F. W. Heagey, and Dr. Young offered the following motion:

"I move that this Society go on record as endorsing the work of the County Commissioners and authorize the Council and Committee on Public Affairs to use every possible means to forward the building program of the Douglas County Hospital. I would also like to recommend that the Council be instructed to present to the County Commissioners a copy of this resolution as a witness of our agreement with their action." Carried unanimously.

The Army Program for the evening consisted of:

1. A paper by Hugh W. Mahon, Captain, Medical Corps, on the Kahn Test, in which he compared the merits of the Kahn and Wassermann tests.

2. The Management of Venereal Diseases in a Large Out Patient Department Clinic by C. M. Walson, Major, Medical Corps.

3. A Modern Treatment of Sprue by C. A. Shepard, Major, Medical Corps.

They also showed three reels entitled "Flashes of Action" showing the work of medical men in the field during the World War, which was enthusiastically receivd.

—Earl C. Sage, Sec.

The regular meeting of the **Lancaster County Medical Society** was held April 17, 1928. The papers of the evening were as follows:

"Uterine Hemorrhages", Dr. I. C. Munger; "Congenital Pyloric Stenosis", Dr. S. O. Reese.

"Ladies' Night and Opening Night" of the New Quarters were held Tuesday evening, April 24th, at 6:30 p. m. Dinner was served in the Club rooms and the evening was devoted to the entertainment of the ladies. The organization of a Woman's Auxiliary was also considered at the meeting.

The March meeting of the **Madison County Medical Society** was held after a banquet at the Hotel Norfolk, Norfolk, March 20. It was the banner meeting of the society, one hundred being present from all points as far as 125 miles distant. The especial attraction was the illustrated lecture on "Fractures" by Dr. C. W. Hopkins of Chicago, chief surgeon of the Chicago and Northwestern railroad. Dr. Hopkins, who is a speaker of much force, held his audience spell-bound for one and three-quarter hours—and then they called for more. He began with the fingers and discussed practically all fractures ending with fractures of the spine.

The **Clay County Medical Society** met at Clay Center, March 19, and elected Dr. W. H. Gibbon, Harvard, president; Dr. J. O. Latta, Clay Center, Secretary-treasurer; and Dr. H. H. Seeley, Harvard, delegate.

The **Cass County Medical Society,** at a recent meeting, elected Dr. E. O. Liston, Elmwood, president; Dr. L. D. Lee, Murdock, secretary-treasurer; Dr. G. H. Gilmore, Murray, delegate.

The **First Councilor District Medical Society** met at Tecumseh, March 29, with thirty-five physicians present.

A banquet was held and there were afternoon and evening sessions.

Those on the program were as follows: Dr. Clarence Emerson of Lincoln, "European Clinical Observances"; Dr. H. M. Hepperlin of Beatrice, "Focal Infection as Related to Surgery"; Dr. J. C. Thompson of Lincoln, "Heart Diseases;" Dr. A. P. Fitzsimmons of Tecumseh, "The Campaign Against the Spread of Tuberculosis in the Philippines", with stereopticon pictures; Dr. Adolph Sachs of Omaha, "Some New Facts in Medicine."

Dr. B. R. McGrath of Grand Island, president of the state association, was present and spoke in the interests of the association.

The **Saline County Medical Society** met at Dorchester, March 12, with 15 physicians present. Papers were read by Drs. C. H. Arnold and E. G. Zemmerer of Lincoln.

The April meeting of the **Otoe County Medical Society** was held over a dinner at the Frontier Hotel, Nebraska City, on the 9th.

Three Omaha physicians put on the program: Dr. A. E. Bennett spoke on "Management of Convulsive States"; Dr. C. A. Roeder on "The Meaning of Indigestion and Dyspepsia"; Dr. W. A. Cassidy on "Mastoiditis".

HUMAN INTEREST TALES

Dr. F. W. Faulk has moved from Omaha to Tekamah.

Dr. and Mrs. E. J. Angle, Lincoln, have returned from a trip to Florida.

Dr. Karl Connell, of Miramar, Calif., and New York, visited in Omaha in March.

The marriage of Dr. Warren Thompson and Miss Helen Smith, Omaha, is announced.

Dr. H. M. Hepperlin, Beatrice, is remodeling a large building to house the Hepperlin clinic.

Dr. A. L. Miller, Kimball, suffered serious injuries to his left arm in an auto accident in March.

Dr. and Mrs. J. A. Waggoner, Humboldt, celebrated their golden wedding anniversary, March 12.

Dr. H. W. Orr, Lincoln, has recently spoken before the organized profession of Seattle and Denver.

Dr. C. F. Crowley, Omaha, who has been ill for some time, is a patient at Nicholas Senn hospital.

Dr. W. O. Bridges, Omaha, has returned from a Mediterranean Cruise. He left Omaha in January.

Dr. B. R. Farner has become an associate in the Campbell clinic, Norfolk. He came from Ainsworth.

Dr. J. P. Lord, Omaha, is on the program of the Kansas Medical Society meeting to be held May 8-10.

Dr. R. E. Moyer, formerly of Verdigre, has moved to Neligh and has become associated with Dr. M. F. Hall.

Dr. and Mrs. F. J. Schleier, Omaha, have returned from a month's stay at San Antonio and Corpus Christi.

Dr. and Mrs. Leroy Crummer, Omaha, have gone abroad for the summer, first to Germany, later to England.

Dr. W. E. Mogan, formerly of Lindsay and Petersburg, now of Denver, visited his mother in Lindsay recently.

The malpractice suit of Clary vs. Hohlen and Mueller, in the Lancaster county district court was decided in favor of the defendants.

Dr. M. J. Breuer, Lincoln, in his inaugural address before the Lincoln Optimists Club, took for his subject "The Science of Modern Medicine".

Dr. and Mrs. J. P. Lord have returned after an extensive trip that included southern California, the Panama Canal, Havana, southern Florida.

Dr. H. S. Andrews, Minden, is building a hospital, a brick structure, to care for 24 patients. The hospital accommodations will occupy the second floor of the building while the first floor will be devoted to medical offices.

Dr. Roy Fouts, Omaha, read a paper before the Western Physical Therapy Association, Kansas City, April 20, on "Roentgen Ray Examination of the Gastrointestinal Tract".

Dr. F. L. Frink, mayor of Newman Grove, was sent to Washington by the local chamber of commerce, last month, in the interest of a Nebraska veterans' hospital for Newman Grove.

Dr. Miles J. Breuer, Lincoln, suffered an attack of pneumonia, shortly after his return from New Orleans where he had been in attendance at the meeting of the American College of Physicians.

NECROLOGY

A. J. Mayer, Omaha; Creighton University College of Medicine, 1924; practitioner in Omaha since graduation; died March 10, 1928. Interment, Mankato, Minn.

John T. McDonald, Chicago; Loyola University, 1924; son of a well-known Omaha family; born, reared and educated in Nebraska; died of pneumonia, March 26, 1928, aged thirty years.

Uriah H. Malick, Bloomington, Nebr.; College of Physicians and Surgeons, Keokuk, 1878; one of the first graduates of the University of Nebraska; practicing physician in Franklin county for forty-nine years; died suddenly, April 10, aged about seventy-six years.

Edgar L. Holyoke, Lincoln, Nebr.; Rush Medical College, 1885; prominent practitioner in Lincoln since 1886; member, U. S. pension board from 1898 to time of death; former member, Nebraska State Medical Association; died April 2, 1928, aged seventy-one years.

Edward M. Thies, Hartington, Nebr.; University of Iowa, College of Medicine, 1916; member medical corps U. S. Army during World War with service in France and with the American Army of Occupation at Coblenz; practicing physician at Hartington since 1920; died at Sacred Heart hospital, Yankton, S. D., about April 12, 1928, aged about thirty-nine years. Burial, with military honors, at Hastings, Nebr.

THE BLACK SHEEP IN THE MEDICAL PROFESSION

There is an old saying that when you live in glass houses you should not throw stones, and it is in a measure appropriate in connection with the effort on the part of the medical profession to secure deserved recognition of the aims and achievements of scientific medicine and abolition of the publicity that makes nostrums and quackery thrive. A very large percentage of the regular medical profession is both progressive and ethical, but there is an element within our profession that represents quackery and dishonesty which little effort on the part of the profession has been put forth to abolish. Some of the quackery and deception practiced by supposedly reputable members of the medical profession is of that refined and polished type that is hard to detect by the average observer. Some of it is blatant and crooked, with no attempt to gloss it over, and our profession suffers by harboring within its ranks these men who disgrace us. It is true that the medical profession is as free of undesirable members as any other profession or the followers of any vocation that is organized, but that does not lessen the duty that we owe to ourselves and to our profession to improve conditions by disciplining and penalizing those who do not live up to the rules of conduct which we have established as our guide. In Indiana we have knowledge of quackery within the ranks of our medical society, and no effort is made to suppress it. Probably every county medical society harbors within its ranks one or more very undesirable members whose conduct is a disgrace to the society. Like a drop of ink in a pail of clear water these few black sheep hurt the whole medical profession. The only reason that they are tolerated in the ranks of reputable medical men is because no one seems to have the nerve to take the initiative in bringing the offenders to justice. We have in mind the abortionists, the advertisers of so-called "cures" for tuberculosis, cancer and other diseases, and the notorious commercialists in the profession. In every locality where the profession has taken a firm stand in purging its ranks of offenders against the ethics and integrity of the medical profession the standing of the profession in that community has been elevated to the point where the public places implicate confidence in the profession and aids in the maintenance of the highest traditions of medical practice. On the other hand, in those communities where the medical profession as a profession dishonors the ethics and propriety of medical practice, the public generally is suspicious and has little faith in the trustworthiness of the medical men of that community. All of which leads us to suggest that it would be a good thing if every county medical society would open each meeting, or certainly several meetings during the year, by reading the "Principles of Ethics" which have been adopted by every reputable medical society as a guide but which so seldom are lived up to in letter and spirit. Aside from our conduct in a professional way there also is to be considered our conduct outside of the profession.—*Indiana State Medical Journal.*

GRAHAM STEELL MURMUR

The Graham Steell murmur is the early blowing diastolic murmur heard along the left border of the sternum due to functional regurgitation through the pulmonic valve. The pulmonic valve itself is not diseased; its ring of attachment is stretched as a result of chronic pulmonary hypertension from marked mitral stenosis. The pulmonic artery is dilated. At postmortem examination the valve ring may not be widely dilated, the leak being largely the result of hydrodynamic effects during life. Generally, when the Graham Steell murmur has been diagnosed during life, aortic regurgitation has been found post mortem, explaining the supposed pulmonic regurgitant murmur. Thus it is unwise to interpret such a murmur as the Graham Steell unless the evidence, as in the case reported here, is quite complete. Graham Steell himself found only rare cases: one case out of seventeen with mitral stenosis examined post mortem, and two other probable cases out of forty-three with mitral stenosis not examined post mortem. The instance reported by Paul D. White, Boston (*Journal A. M. A.*, Feb. 25, 1928), is said to be the first in which he made the diagnosis of the Graham Steell murmur without question ante mortem that has been confirmed at postmortem examination. The murmur is rare, but it does exist.

PROFITABLE ABSENT MINDEDNESS!

A western physician, driving along a lonely road, picked up a "hitch-hiker", according to a news story. For ten miles he and his companion, a likable young fellow of about twenty-five, discussed everything of mutual interest. Then the doctor reached for his watch. It was gone!

Whipping out his gun, he is alleged to have covered the youth and barked, "Hand over that watch!" The young man did so quickly, with a surprised look—then ran down the road.

The doctor's wife asked him that night, "Didn't you miss your watch today? You left it this morning on the dresser!"

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MEDICINE AND COMMERCIALISM*

BENJAMIN R. McGRATH, M. D., F. A. C. S.,
Grand Island, Nebr.

The alchemist, of old, toiled in his secret laboratory until something startling was evolved and then he came forth to astonish the world. So, the chemist and the physicist hide themselves in the laboratory; the naturalist buries himself in the forest, on the prairie or on the wide ocean; the astronomer loses himself in the vast heavens.

It is said that Steinmetz was content if he were provided with a laboratory and the simplest necessities of life, leaving the acquisition of millions from his discoveries to others. This is the type of the true scientist. His chief concern is the mastery of his problems. He is usually content to let the newspaper and the lecturer herald his discoveries abroad and to allow the promoter to market them.

The business man, on the other hand, mingles with the people. His happiness and prosperity depend on their support, so he must meet their approval. He must satisfy his customers so that they will return again and again. So eager is he to please that the slogan: "The customer is always right" has become a common rule, or, at least, a common pretense of the man who has things to sell. The success of the business man is measured by his accumulation of wealth. The unit for his measure is the dollar.

Salesmanship is one of the greatest factors of modern life. It advances civilization rapidly to new planes. Through it we follow the scientist and make use of his discoveries. The salesman makes us live in houses of luxury, where, in the comfort of our firesides, we listen to the wisdom of the world or to its best music. He makes us ride forth in soft cushioned chariots. He compels us to use machines that take the drudgery out of work and shorten the hours of labor. He sees to it that we employ methods of sanitation that add years to our lives. To accomplish these things, the man of business and his salesman use every possible means to attract the public. They call into their service the speaker, the descriptive writer and the artist to stimulate desire of possession.

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*Presidential Address, Nebraska State Medical Association, Hastings, May 15-17, 1928.

The characteristics of the scientist and the business man are so widely different that they seem the antithesis of each other; but, widely as they vary, many of the characteristics of both must be combined in the physician.

Primarily, the physician is a scientist. He must solve nature's problems. He must observe keenly and think deeply on nature's phenomena. He must possess extensive knowledge; and, throughout his life, he must be a student. In addition to all this, he must sell his knowledge to the public. In order to make his work a success, medical services must be sufficiently attractive to bring back patients again and again.

On the business side of his activitits, the physician is hedged about and limited by an ancient code of ethics. We sometimes wonder if we have reached the age when medicine should be modernized. Are we now at the time when we must proceed along commercial lines? Shall we break loose from time-honored restrictions and use new methods taught us by the business man and his salesman? If so, how far could we go with profit to ourselves and to our patrons?

The figure of the fully commercialized physician is not pleasing even in this time of commercial ascendency. He is not restrained by modesty from proclaiming himself as superior to his competitors. As the merchant advertizes the superior quality of his wares, so this type of physician advertizes his personal qualifications. Such a man studiously attempts to impress the public with attainments, but is not interested in actual possession of them. He copies the manner and appearance of the student, but ceases to study. He makes a display of laboratory apparatus, but seldom uses it for anything but display. Under such a regime, his scientific attainments rapidly deteriorate. The unit for his measure becomes that of the business man—the dollar. This is the common advertizing charlatan. No longer a scientist—the fully commercialized physician. After contemplation of this type, we are content to have our code of ethics still say: "Solicitation of patients * * by * * * advertisements * * * is unprofessional."

It is a common desire of men to be prosperous, to be as comfortable as their neighbors, and to protect and provide well for their families. Life's increasing complexities are requiring more and more education for the children. If these requirements are met and a competence provided for a comfortable old age, it may be said that the individual's life has been, financially, a successful one. The successful medical can scarcely hope for more. The business man may struggle to found a great fortune, for the measure of his success is money; but the physician being first a scientist, cannot be measured by this standard in the the most important part of his work. The student choosing medicine for a profession should see stretching before him, a vast field for scientific labor. He will be compensated, but if he sees chiefly that side of the prospect let him turn aside. The standard of measure for the physician's success is in disease healed and lives saved. If his life is controlled by a desire for accumulation of a great fortune or if he allows his mind to dwell on large fees, he has become too much commercialized.

The practice of secret division of fees which has been adopted from business life by many medical men, is one that leads away from conscientious, scientific thought. It makes of our practice a commercial venture not to the best interest of the patient, and professionally degrading to those who practice it. It makes of the patient a commodity to be bought and sold. It educates the laity wrongly upon the relative value of medical services, creating the impression that some are of little or no value, while others are held at high price. The aim of those who practice it is not just distribution of compensation, but secret competitive advantage. Medicine under this system becomes too much commercialized.

There are, however, business practices which may be adopted by the medical profession with profit to itself and to the people it serves. Modern medicine and surgery have advanced as rapidly as mechanics and the arts and sciences in general. Where we formerly worked in the dark, we now confidently proceed in the light of knowledge. There is a directness in our medicine and a safety in our surgery not possessed by them a few years ago. Medicine owes it to the public and its own welfare requires that its achievements be made common knowledge. Organized medicine may spread this information without breach of etiquette or modesty. If it can bring to the thousands with unrepaired herniae, with untreated chronic appendices, with the injuries of childbirth, the information of how easily relief may be secured, not only they will be relieved of suffering, but they and the public will profit by their increased efficiency and the surgeons by their well earned increase of prosperity. If it can bring to the diabetic the assurance that, under proper medical supervision, his normal expectancy may be lived in comfort and activity; if it can show the sufferer from pernicious anaemia that it is possible for careful medical attention to give him additional years of activity and comfort; if it can tell the sufferer from heart disease how his years of useful life may be lengthened by medical attention; if all may be informed that many of the serious illnesses might be warded off by regular health examinations, great good would be done to the people and to their physicians.

In the field of publicity, organized medicine has much to learn from organized business.

It has long been a business principle that wares must have honest values. Mere advertising cannot indefinitely keep up the sale of an article that does not possess true merit. The physician must also be ready to give honest scientific service. Whether he be located on country cross roads or on metropolitan boulevards, publicity of medical things will make it harder and harder to sell medical services of inferior quality. The day of the placebo doctor is passing and in his place will stand the new type, eager to apply scientific knowledge, or honestly say, "I do not know".

It is often asserted that the medical profession, by its work in eradication of disease, is destroying its own prosperity. It is true that much of the work furnished by infectious disease we do not now have; but in its place, new lines of work have opened up. In two generations, our great system of antiseptic surgery has developed. We now go into the diagnosis of disease with a minuteness not formerly dreamed of. Health examinations are beginning to come. Medicine is evolving into a new and greater system and its practitioners must follow this evolution.

A physician (J. Rosslyn Earp, Journal A. M. A., 2-4-'28) who has been able to check up closely on 2500 health examinations, states: "The results were somewhat disappointing, showing a number whose examinations had been perfunctory and had failed to warn us of well marked defects. In one case, a boy who had been certified to be in perfect health by his family physician was assigned to a construction job; he became faint while at work, was examined by the company's physician, and was found to have a very obvious mitral lesion which the heart was barely able to compensate". Such services do not meet the business test, and cannot be continuously sold by publicity. Publicity will rather serve to inform the public of their inferior quality.

An investigator of quackery (Does Quackery Pay?"—Dr. Geo. E. Keller, Hygeia, April, '28), sent out 2000 typical quack letters advertising a treatment for tuberculosis. Equal numbers were mailed to physicians, to lawyers, to dentists, to business men, to craftsmen, to ministers, to farmers, and to married women. This investigator says: "Many fall for any graft put out, and even to the card I sent out forty physicians sent $1.00. (I am ashamed to record.)" What can be said for the physician who knows so little of present day methods of handling tuberculosis? Can he deliver honest values to those who would buy scientific services?

Modern business requires that goods shall not be misrepresented. However attractively they may be described, this description must be honest to bring long-continued prosperity to the business.

Ancient medicine was filled with deception. Many of its practitioners wished to be known as doers of magic, as possessors of supernatural power. To this day, some of the same type of practice persists; it seems so easy to give exaggerated notions of the healing powers of medicines and of surgery to those who know so little of their action. There is no longer need for deception in medicine if there ever was such need. Its achievements are such that no false claims need be made to make the existence of the profession seem reasonable. The Doctor is a teacher, and, as such, he should be a disseminator of truth. Deceptive impressions given the laity on the powers of remedies, have sent them here and there seeking specifics and cures. The uncertainty gives a foundation for the patent medicine business, for quackery, and for establishment of the cults. Business may teach us that even for policy alone honesty is best.

Modern business is well organized. As a business proposition its organizations are well supported. In medicine, too, it is essential that we work through organization. Through our organizations, we shall promote the education so essential for our welfare, and through them, only, do we have the strength essential for meeting modern problems. Every medical man can well afford, from a business standpoint, alone, to support the organizations of the profession.

In this active commercial world, the physician is still a scientist. There is a business side to his profession, but his business interests are best promoted by giving first consideration to his scientific work. In this way, only, can honest values be given and the progress of the profession maintained.

Business may teach us much, but there is much in business that cannot be adapted to medicine.

TREATMENT OF PROLIFERATIVE ARTHRITIS WITH AMMONIUM ORTHOIODOXYBENZOATE

ARTHUR L. SMITH, M. D.,
Lincoln, Nebraska.

HISTORY

In September 1926 Young and Youmans made a report on the treatment of forty-three cases of various types of arthritis with salts of iodozybenzoic acid. They reported some degree of improvement in all but seven per cent of the cases treated. Smith in February 1927 published a paper in which about the same results were obtained. Trauba in October 1927 reported thirty-one cases of infectious arthritis treated by this method with rather indifferent results. Schauffler reports this chemical gives at least some relief in every case of infectious arthritis but he does not state how many cases were treated. Cottrell treated a mixed group of arthritis cases and his conclusions are it is of great value in this disease. His results are highly satisfactory.

TYPES OF CASES TREATED

In this paper sixty-nine cases of proliferative arthritis treated with ammonium-ortho-iodoxybenzoate injected intravenously are reported. One patient received ten grams by rectum and one the same amount by mouth with no change in their condition but both improved later by the intravenous treatment. One patient with an arthritis deformans of eighteen years standing was given seventeen, one gram injections with great improvement. Two cases of degenerative arthritis were given six injections of one gram but no improvement was noted in either. These were treated by others under my direction but I have never seen them since treatment started so am not including them.

AGE AND DURATION OF DISEASES

The ages of those treated varied from fourteen to sixty-eight years and the duration of the disease from six months to twenty-two years. Two patients had arthritis less than one year and four suffered from it over twenty years. The youngest patient, fourteen years, had arthritis of feet for five months and at the end of the fourth dose was walking normally. The oldest, sixty-eight years, had had an arthritis of the feet, hands and knees for eighteen years. He had contractions only of the fingers but stiffness, swelling and tenderness in the other joints. After the third dose he was normal with the exception of a decreased range in finger movements. In these cases, duration and age had no bearing on the length of time of improvement.

PATHOLOGY

Some of the names given this condition are: proliferative arthritis deformans, progressive polyarthritis, proliferation arthritis and infectious arthritis. It affects people of any age and quickly leads to pain and tenderness, lameness, disability and stiffness of the affected joints. Its first points of attack are often the hands and feet and may include any of the other joints. It may be slowly progressive or all the joints may be suddenly attacked, accompanied by fever as in acute rheumatism. The affected parts enlarge but usually remain soft and doughy, nodules seldom being present. Tenderness and slight swelling may be present in a few joints for a long time before others are attacked. The x-ray often shows a rarefaction of the bone but seldom little if any change in the joint early in the disease, later there is a clouding of the interarticular spaces and as the granulation tissue invades this area there may be a partial or complete obliteration of the joint cavity. Histologically a layer of granulation tissue spreads over the surface of the synovial membrane and the articular surfaces. Through adherence of the granulation tissue of opposite sides the joint cavity is gradually filled and movement reduced. This tissue also extends into the cartilage and tends to destroy it. The bone beneath later shows rarefaction and the bone marrow becomes converted into a fibrous mass with many osteoblasts and capillaries. This penetrates the cartilage from below, causing ossification as it goes, even into the granulation tissue on the cartilage. This explains the tendency to fibrous and osseous ankylosis.

ASSOCIATED PATHOLOGY

Infected areas found during the examinations were: infected tonsils eight, chronic cholecystitis eleven, one of these had gallstones, twenty-two in which a periapical absorption about the teeth was shown, sixteen non-vital teeth, roots of teeth after extraction six, infected and enlarged prostate gland seven, endocervicitis six, pyelitis two, cystitis four, chronic appendicitis one, abscess in the mandible one, bronchiectasis one, infected sinuses two and para-rectal abscess one. Many complications not considered as infected were found. The infected teeth, roots of teeth, and tonsils were removed and some of the non-vital teeth were extracted. In ten of the chronic cholecystitis cases transduodenal gallbladder drainage was instituted and in one associated with gallstones a cholecystostomy was done. The infected and enlarged prostates were massaged and given diathermy. In the endocervicitis cases local treatment of various sorts was used. In pyelitis mercury and silver salts were injected into the pelvis and in one of these with a stricture of the ureter this was dilated. In infection of the bladder, irrigations eliminated this. The chronically infected appendix was removed. In the case of abscess in the mandible this was removed by curettage. Lipiodol injections into the bronchial tubes were given in the bronchiectasis case. The para-rectal abscess was corrected by operation. Every effort was made to locate infections and remove them. It cannot be assumed that all infected areas were discovered and removed. It might be argued that the removal of these foci was the immediate cause of the improvement in these cases but in my experience, during the preceding ten years, the removal of foci and the treatment with all types of drugs was of little avail in chronic arthritis. When secondary infections become primary and infect other areas it is surely not reasonable to believe that removing the original focus will cure the secondary foci. In many of these cases the tonsils and teeth had been removed early in the disease but this did not stop the progress of the infection. In some of these cases no infected tissue could be found outside the joints but ammonium-ortho-iodoxybenzoate restored these to normal function.

METHOD OF TREATMENT

Two patients were hospitalized and sixty-eight were treated in the office, remaining from two to four hours after the injection. During this time radiolight and diathermy were applied to the affected joints. No orthopedic procedures of any type were used. The drug was prepared by dissolving one gram of the ammonium-ortho-iodoxybenzoate in one hundred cubic centimeters of warm sterile distilled water. It was given intravenously with a luer syringe under aseptic precautions and in not less than fourteen minutes. The treatments were given twice a week six to eight doses with a varying period of rest before the next course. Two patients received the medicine by mouth and by rectum but since this was unsatisfactory, causing irritation or nausea and no benefit followed, this method was discontinued. Analgesics of different types were given in a few cases. As the pain and tenderness disappeared the patient was encouraged to use the affected parts. Most of these patients had had all or some foci of infections removed but if any were found at the time of examination these were eliminated at once if possible and the intravenous treatment started as soon as the condition would permit. For one cause or another one gram could not always be given. Pain along small veins, nausea, rupture or puncture of small veins and such things made it necessary to stop at times. No more than one gram was given at any one injection.

IMPROVEMENT

By improvement, is considered the reduction of pain, tenderness and swelling and increase in the movement of the affected joints. The headache which usually accompanies this condition often disappeared entirely. The relief of pain was the outstanding factor observed and this usually occurred after the second injection, in some after later injections and in a few instances a few weeks after the last treatment. With the relief of pain, swelling and tenderness decreased and function of the joints increased. Some who appeared to have permanent fixations had a surprising range of movement restored. The general condition improved greatly with the alleviation of the local troubles. Increased appetite, reduction or elimination of the great nervousness and mental depression, gain in weight and better color were usually observed. As the movement increased the muscle and bone atrophy decreased and the strength gradually increased. These changes are so constant that they can be expected with joint improvement. In a few instances improvement started when further treatment seemed hopeless. All these cases have been observed over a period of at least three months and have shown no return to the former condition. The younger persons as a rule improved more rapidly than the older. Of course destroyed tissue, as cartilage, might be restored but restoration of any tissue is problematical. Where actual fixation was present, normal movement could not be expected without manipulations of some sort.

RESULTS

In the seventy cases, including the three who refused to complete the treatment, only one did not receive any benefit. This conclusion is arrived at by personal observation and by the statement of patient in every case. The two cases of hypertrophic arthritis treated under my direction but not seen by me are not included. These, as stated before, reported they were not improved. Thus sixty-nine improved in some degree and only one was not helped.

Of the number improved forty-two were restored to normal, with no pain, tenderness, swelling and with normal movement of the affected joints; twenty-one were greatly improved with no pain, tenderness or swelling but movement of the affected joints was decreased; one, the arthritis deformans case, has some pain in his joints but movement in the wrists, hands and ankles which were stiff has greatly improved and the bony proliferations are greatly decreased in size; one has normal movement but has evanescent pains in the joints; four complain of pain, swelling and tenderness with reduced movement in some joints and complete restoration to normal in others.

Only six of this number had not received treatment of some sort for arthritis before seeing me. Five of them were treated by me with other methods and the others by various physicians in different parts of the country. Most of them, having been told nothing further could be done for them, were greatly discouraged and the psychical element surely did not assist in the good results obtained.

REACTIONS

Reactions of various types have resulted, varying in time from a few minutes to several hours after injection. Practically every patient experienced lachrymation, burning in the nose and mouth and often in the fingers. Many times they complained of the skin feeling hot or chilly. Distinct chills followed in eight, while four vomited shortly after and three had diarrhoea almost immediately. Pain along the course of the injected vein was often complained of. One fainted during the injection but she stated this often happened to her with the least provocation. Phlebitis of greater or less degree resulted in thirty-two at some time during the course of the treatment. The severity of the inflammation of the vein varied from a slight local thickening and tenderness to a severe phlebitis along the entire superficial course of the vein. In one patient a phlebitis followed each injection. It is often very difficult to find suitable veins so that very small ones are of necessity used and this often accounts for the local reaction. No emboli were observed. Following the injection, with normal salt solution as suggested, has not in my experience prevented this complication. In one patient weighing three hundred pounds only varicose veins in her leg could be seen. The drug was injected into these and in each case they were obliterated, so this might be a good treatment for varicosities. However, I consider this a poor practice as emboli might result. Increase of pain in the joints was seldom complained of. A fever was present in four cases. The nausea was sometimes controlled by not eating and in other cases by taking food before the injection. One patient complained of being tired and weak for five weeks after the course of six injections. During this time the arthritis had not improved, and she refused to take any more injections. However, as her weakness and tiredness disappeared her condition improved until all symptoms disappeared. At present she is strong and normal in every way. Some patients had a reaction after each injection, some had none at all, a few had none after the first and a few had none until several had been taken. Thus the reactions varied greatly in each patient. However, no alarming reaction was seen.

On account of reactions, three refused a second course of treatment. One of these had severe vomiting and diarrhea after each injection, one was so sensitive she could hardly be touched without complaining and since only a few small veins could be found the procedure was very difficult and trying for both persons concerned so she was not greatly urged to undergo further treatments; another after one injection followed by vomiting refused to continue the treatment.

DISCUSSION

These patients have wandered from physician to clinic and receiving no benefit of course become discouraged, despondent and sensitive. Often, feeling he has "rheumatism" he goes to a dentist who removes all suspicious teeth, then if no improvement ensues, he visits the nose and throat specialist who removes the tonsils or drains the sinuses. Bone, genitourinary, rectal specialists and others are consulted. Often they forget the entire body must be carefully investigated and without a complete knowledge of all organs of the body many infections will be overlooked. Elimination of some small infected area will not heal other infections. No specialist believes that the infected necrosing gland in the neck which is secondary to infections in the tonsils will cure itself by removal of the tonsils but yet the same specialist will tell the patient that tonsillectomy will cure joint infection without any other treatment. Too often the specialist seeing only his small sphere of action forgets that the rest of the body ever becomes diseased or needs attention. Much valuable time is lost and the infection and destruction of the joints progresses, thus increasing the difficulty in overcoming the arthritis. Each patient reported in this paper received a complete examination before any treatment was instituted. This consisted in a physical examination, roentgenograms of sinuses, teeth, affected joints, gastrointestinal tract, chest (lipiodol injections at times) gall bladder, (visualization if necessary) visualization of the uterus and tubes if indicated and of any other tissues if it seemed necessary, blood examinations, including blood chemistry, Wassermann and Kahn tests, urine with functional tests, feces, stomach and duodenal contents, cystoscopic examination if necessary and examinations by specialists as required. I believe without a complete examination many diseased areas may be overlooked. Even with all the aids we can marshal our diagnoses are far from being one hundred per cent correct. Only after this can the proper treatment be instituted. First all infected sources should be removed and none left to pour bacteria into the blood stream and keep the joint infection active, then treatment of the joints should follow.

No one drug will cure any disease all the time so all types of treatment must be added to accelerate the reparative processes in the infected joints. This condition requires the cooperation of all branches of medicine and only by this method can the best results be obtained.

CASE REPORTS

Case 1. Mrs. W. 25 years old. November 17, 1926. Stiffness, swelling, tenderness in the hands, feet and knees for the past seven months. Cannot remove rings on account of swelling. No fever at any time. Headaches. Some teeth were removed. Was told by x-ray specialist and a surgeon that she had arthritis and that nothing could be done. She is very nervous and cries a great deal. Examination revealed infected tonsils and endocervicitis and a staphylococcia on the face. The finger and toe joints are swollen, tender, skin smooth, motion is decreased and pain is present with movement. Knees are tender and painful with movement. Roentgrams show a proliferation of bony tissue into several of these joints and atrophy of the long bones of the hands and feet.

The tonsils were removed, the endocervicitis treated by local applications and the staphylococcia treated by mercury preparations. Ammonium-ortho-iodoxybenzoate was given one gram twice a week for six doses. After the second dose the hard areas about the joints began to soften and decrease in size. After the sixth dose she said she never felt better. In one month all joints were normal in size and movement and no pain or tenderness was complained of. Two months later a neuritis developed in the left musculospinal nerve. At this time three one gram doses were given. She has been perfectly normal since.

Case 2. Mrs. S. 32 years old. August 20, 1927. For thirteen months pain, swelling, stiffness of the hands, feet, and right knee. Can walk very little on account of the pain in the feet. Headaches a great deal and she complains of pressure in her eyes. Appendix and tonsils were removed several years ago. Examination revealed no foci of infection. The several joints of the hands and feet showed a proliferation of bony tissue into the interarticular space and there was an atrophy of the ends of the long bones. No other abnormality except hemoglobin 62% was found. Seven grams of ammonium-ortho-iodoxybenzoate was given intravenously. Not only no improvement followed but the pain in the hands and feet was increased. She became weaker and more nervous than ever but the headache and eye pressure disappeared. Six weeks after the last dose the hands and knee were normal, the feet were less painful, she was stronger and her color was better. December 12th she was walking fifteen blocks a day but there was some pain in the joints of the big toes. January 3rd, 1928, she felt well, stronger, was gaining in weight and worrying about being too fat, was walking two miles a day, doing her own housework, had no pain or swelling in any joints and her headache and nervousness had disappeared.

This illustrates a case of delayed improvement. Sodium salicylate was the only medicine or other treatment given. February 29th she was normal in every way and her hemoglobin was 90%.

Case 3. Mrs. G. 68 years old. June 5, 1927. Teeth all extracted at sixteen years of age. Appendix removed eighteen years ago. A tonsillectomy was performed three years ago. Has complained of pain, swelling, stiffness in the hands, feet, lower back and knees. This trouble was first noticed about fourteen years ago and has been slowly progressive. The fingers could not be entirely flexed or extended. Motion being reduced about fifty per cent during the past eight months. She has been given iodides, salicylates, peptone and typhoid bacilli intravenously, different types of physical therapy and local applications with no benefit. The examination showed swelling and tenderness, with smooth shining atrophied skin and muscles about the knees, feet and hands. The fingers were flexed at the second joint and were tender and swollen. There was tenderness over the lumbar region. Tenderness and swelling was especially pronounced over the basal joint of each great toe and over the knees. Any movement of these joints resulted in complaint of great pain.

Examination: A root of a tooth with an area of absorption about was found. The right antrum showed an increase in density in the roentgram and by transillumination. The erthrocytes were 3,060,000, leucocytes 9,200 and the hemo globin 50%. The roentgrams showed a proliferation of osseous tissue into the articular spaces and into the cartilages, a decrease in cartilaginous tissue and an atrophy of the bones about the joints involved.

Treatment: The root of the tooth was extracted and a pure culture of staphylococcus aureus was recovered. The antrum was drained and the same organism found. She was given sixteen grams of ammonium-artho-iodoxybenzoate in three courses. Improvement started after the first dose and after the fifth dose all pain except that in the lumbar region had disappeared, the swelling was reduced and movement increased. After the final dose, four months later, the pain in the back was the same, the other joints were normal except for some feeling of stiffness and fullness in the fingers. February 4th 1928, the back was normal and while she complained of some stiffness in her fingers it was not apparent.

This illustrates an arthritis of long standing in an old person with a good response to treatment.

Case 4. Miss I. H. 14 years old. April 24, 1927. November 1926 pain, swelling and tenderness appeared in both feet. She had some fever at this time and has not been able to walk on the soles of her feet since on account of extreme tenderness. Walks only on the sides of the feet. Will hardly allow one to touch her feet at all. For the last two weeks she has complained of having some headaches. She was examined by an orthopedist who insisted that she would have to have her legs and feet in casts for at least six months. Examination revealed infected tonsils, swelling and tenderness of practically the entire feet and ankles. The feet were especially tender along the inferior surface. There was an atrophy of the foot muscles. There was a small amount of albumen in her urine. Leucocytes 9,600. Hemoglobin 80%. Metabolic rate plus twenty-eight. She could not bear the weight of her body on the soles of her feet so walked on the fibular sides only. Roentgrams showed some atrophy of the long bones of the feet and a slight proliferation of bony tissue into the joints.

Diagnosis: Proliferative arthritis. Infected tonsils.

Treatment: The tonsils were removed. Iodides were given internally. Diathermy was applied to the feet. Ammonium-ortho-iodoxybenzoate five and three-fourth grams was given over a period of three weeks. At the end of the fourth dose she was walking normally. Two months later she had some pain in her ankles which lasted about three weeks. She has been normal since, and the atrophy of the foot muscles has disappeared. Has gained in weight, walks normally and feels well.

Case 5. Mrs. H. 58 years. August 5, 1927.

Has had pain, tenderness and swelling in her hands, fingers, wrists, right shoulder and left knee twelve years. Her fingers have recently become misshapen. During this time her tonsils have been removed, the sphenoid sinus and the right ethmoid cells have been curetted. Both antra have been opened and drained. One frontal sinus has been drained and it has been recommended that her appendix be removed. She has been given typhoid vaccines and milk injections intramuscularly. Has been given internally salicylates and iodides. Has recently had three roots of teeth removed. At this time several places in the jaw bones were curetted. Recently pain in her back, her right hip and severe headaches have appeared. With the headaches she must remain in bed for several days. At present she has a great deal of trouble with her left knee which she says is very painful and locks at times.

Examination: Tenderness and swelling in all the finger joints, wrists, right shoulder, the left knee and the right hip. Tenderness in the lumbar region. Nodules about the finger joints and lateral deviation of the distal phalanges. Movement of the fingers and wrists greatly reduced. Atrophy of the hand muscles. Roentgenograms show some destruction of cartilages in the fingers with a proliferation of bone into the interphalangeal joints, bony proliferation into the wrist joints and the right knee joint. The right knee cannot be entirely extended. Sinuses were all normal. She was having a severe headache during the examination and the pain appeared to be very great. A spinal puncture showed the spinal fluid under increased pressure but otherwise normal. The blood pressure was systolic 180, diastolic 90. Tenderness over all the superficial nerves. A large amount of pus was present in the urine but the cystoscopic examination showed the kidneys and ureters to be normal though the bladder was greatly inflamed and in some places covered by a whitish membrane. Except for the pus the urine was otherwise normal. The heart was normal with the exception of a concentric hypertrophy and an accentuation of the second aortic sound. The electrocardiogram was normal with the exception of a left ventricular preponderance. Examination of the blood showed the blood sugar and non-protein nitrogen to be normal. Leucocytes 7,900, red cells normal, hemoglobin 78%. Metabolic rate plus two. The examination was otherwise normal.

Diagnosis: Proliferative arthritis. Cystitis. Essential hypertension with a secondary cardiac hypertrophy.

Treatment: Irrigation of the bladder with potassium permanganate and silver salts until the pus disappeared from the urine. Ammonium-ortho-iodoxybenzoate five and three-fourths grams. After the first dose the pains in all joints was lessened. After the third dose the nodules in the fingers became soft and all pain had disappeared except in the right hip. On September 29, 1927 (one month and twenty-four days after the first injection) she had no pain whatever. The movement of all joints was normal, with the exception of the distal joints of the fingers. Atrophy of the muscles of the hands was disappearing. The nodules in her fingers were about one-half gone and soft. The headache disappeared entirely after the second dose and she has not had a headache since. There is some deformity of the fingers due to destruction of the cartilages so that movement in the distal joints is somewhat decreased. During the treatment the right ethmoid cells were found to be infected and they were curetted.

This illustrates the type of arthritis case in which the disease has steadily progressed because one thing after another has been done over a period of years without a complete examination being done, all infections eradicated and medication then directed toward the joints.

Case 6. Mr. F. 48 years old. August 16, 1926.

Has had swollen, painful and tender joints with gradually decreasing movement of the hands, wrists, ankles and feet for over twenty years. The pain has been very severe at times and this has been gradually increasing. The movement of the ankles, hands and wrists has decreased until at present there is very little movement and this is always attended with pain. Appendix was removed five years ago. Tonsils removed three years ago. Several teeth have been pulled at different times. All have been said to have been infected and was the cause of his "rheumatism." He owns a large chicken incubating plant and has been able to do little of the work required during the hatching season. He has had electrical treatments of all kinds and all kinds of medicine was prescribed with no benefit whatever. Intravenous and intramuscular injections have been given. Last year at the clinic in Rochester he was told positively nothing could be done for him. The examination showed a proliferation of hard bony tissue one inch in depth about the wrists and ankles. About the metacarpophalangeal joints, many of these hard substances were at least one-half inch thick. The fingers were deviated to the ulnar side. There was slight movement in the wrists and ankles and about one-half the normal movement in the fingers. Each movement was attended with a great deal of pain. He was a very much discouraged man. Metabolic rate was minus twenty-eight. Hemoglobin 71%. The movemcnt of the vertabrae in the lumbar region was decreased. Roentgenograms of these areas show a combination of hypertrophy and atrophy of osseous tissue. Examination was otherwise normal. Diagnosis; Arthritis Deformans.

Treatment: Seventeen injections of ammonium-ortho-iodoxybenzoate were given. With each injection a phlebitis followed. Oxyl iodide compound was given by mouth. After the first course of eight grams the joints were less painful, the hard tissue about the joints became softer and smaller and could be moved around, while the movements of the joints was greatly increased. Treatment was stopped for one month. During this time he had a cold and pharyngitis followed this. The joints became somewhat more tender but the movement remained the same. After the second course of six injections the joints were looser, the bony growths decreased in size, were soft and more freely movable and the pain and tenderness of joints disappeared. He could walk normally, having the normal amount of movement in his ankles. During the following hatching season he worked hard, handling the egg trays from morning till night. During this time the movement of the joints remained the same but at times there was pain and tenderness in some of them. By August 24, 1927 he had gained nine pounds and had no pain while all the bony tissue had decreased to about one-fourth its former normal size. September 17, 1927 he had a little pain in one ankle but the movement had not decreased. March 3, 1928 in a letter from him he said, "The movement of all joints is the same as it was when I last saw you." He is working very hard. At present his right ankle swells and gets painful at times. Left ankle and hands are the same as they have been for the past year and he is in better condition than he has been for many years.

This illustrates the type of case in which treatment has seemed worthless. He had had every kind of treatment ever recommended for arthritis and still gradually became worse. This treatment is the only one that has caused any improvement.

CONCLUSIONS

1. Seventy cases of chronic arthritis are reported with improvement of varying degree in sixty-nine, the results far surpassing that of any former treatment I have used.

2. The treatment consisted in using all previously known methods and ammonium-ortho-iodoxybenzoate was given intravenously in one gram doses, largest amount given to one person being seventeen grams. While seventy cases is not a large number, in my opinion, it is enough to establish the usefulness of a drug, especially when improvement is seen in a chronic condition which has often defied all former methods of treatment.

3. Most of these patients had been treated by several different reputable physicians who had employed various methods in the treatment of this disease.

4. In my experience with all kinds of treatments, as drugs by mouth and intravenously, elimination of focal infections, manipulations, applications, vaccines, foreign proteins, orthopedics, hydrotherapeutics and electrotherapeutics the results have been very discouraging to all concerned.

5. The amount of improvement is concluded from the statement of the patient and by observation.

6. This treatment is simple, the toxicity slight, the reactions do not last long and are not dangerous.

7. Experience shows this type of patient often has a little surgery done by the specialist he visits, both he and the specialist hoping this will eradicate the secondary infections in the joints.

8. A secondary infection will not eliminate itself any more than a primary one. Many specialists claim that infected tonsils, teeth, sinuses, etc., need surgical treatment and that following this by some magic the infections in joints will disappear. How this is affected is never explained.

9. While the intravenous method is tedious and nerve-racking at times for both the patient and physician and while it requires a great deal of patience as many of these patients seem to have an atrophy of veins as well as bone and muscles, the results more than repay the effort expended.

10. No person should be treated before a complete, thorough examination.

11. Drug firms are putting on the market a type of this drug to be given by mouth but reported and personal experiences with this are discouraging.

12. The percentage of improvement in these seventy patients is constant enough to feel that ammonium-ortho-iodoxybenzoate is an advancement in the treatment of chronic proliferative arthritis.

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POSITIVE INDICATIONS FOR SKELETAL TRACTION IN FRACTURES OF THE FEMUR*

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Skeletal traction or direct bony traction is a procedure which mechanically is sound and effective in maintaining length in fractures of the femur. Skin traction by Buck's extension obviously does not have the positive pull, although quite satisfactory in the average case of fracture of the middle third of the femoral shaft.

With the development of aseptic surgery and open reduction of fractures with some type of internal fixation, results have improved greatly so that the inch or two shortening of former times is inexcusable. However, in the face of a compound fracture of the femur in any region or a simple supra-condylar or inter-condylar fracture, internal fixation is extremely difficult, in one case inviting infection and in the other inadequate to maintain position and alignment. We have then at least two conditions of recent fracture which present positive indications for skeletal traction. In the old fractures with malposition and malunion, the indication for direct traction following the forcible fracture of the callus or osteotomy, is a very definite one recognized by all surgeons who must deal with these types of cases. With the traction force applied directly to the bone and with the position of the lower fragment to which the traction apparatus is attached placed so as to meet the uncontrolled upper fragment, we have met the fundamental principles in the handling of these fractures. Pearson of London has probably done more to introduce and standardize this procedure than any other surgeon, and by some it is known as the Pearson method.

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*From the Department of Fractures, University of Nebraska, College of Medicine. Clinical material presented at the meeting of the Nebraska Section of the American College of Surgeons, February 8, 1928, Omaha.

The advantages of skeletal traction are numerous. In the fresh fractures it means practically no manipulative traumatism, as the properly directed traction force in itself reduces the fracture. The extremity remains free for inspection, which is a comforting thought in case of a compound wound or a complicating thrombophlebitis.

The knee joint can be moved through a variable range of motion daily and the patella manipulated. This, in all cases, will shorten greatly the period of knee stiffness, and to a great extent, lessen the very disabling permanent joint fixation, which occasionally over-clouds the anatomic reduction of the fracture.

We feel that the greatest advantage of all is the ease with which adjustments can be made by altering the axis of traction or by counter pressure and traction, as indicated by subsequent x-rays. In the use of plaster fixation the check-up rays following an apparently good reduction are sometimes very disappointing and often require extensive redressment, while in the more flexible apparatus this redressment is a simple matter.

The disadvantages of ice-tong traction and fixation are definite ones in the eyes of those untrained in the method and account for the slow acceptance of it by the general practitioner or surgeon who, however, does not hesitate to do a formidable open reduction with plate or wire fixation. The equipment required is of a rather special type, but not as extensive as is necessary for immediate reduction and plaster fixation. A bedside x-ray unit is not an absolute necessity but a great convenience in order that check-ups can be obtained without in any way disturbing the traction apparatus. If this is not available it furnishes a definite handicap in handling these cases. The danger of infection at the site of the caliper points is a very strong barrier against the rapid acceptance of this method of traction. Cases of osteomyelitis and even knee joint infection have occurred but only with inadequate preliminary skin preparation, laxity in asepsis at time of application of the ice-tongs, or frequent dressings of the caliper wounds. Frequently a low grade superficial infection develops about the prongs which subsides when the calipers are removed.

Pain is a factor feared by the patient at the thought of bone penetration. It sometimes is a difficult symptom to overcome but with no evidence of skin tension and with properly placed tongs as shown by the x-ray, the difficulty may be found as a slightly twisted or angulated position of the upper leg, an unstable bed, or a floor which vibrates with each step of the nurse. These latter factors are sometimes very grave ones, and in one patient were nearly the causative factors in discontinuing the method; however, relief was obtained when the above difficulties were corrected. It is our impression also that calipers in atrophic bone are somewhat painful, as one patient with malunion of the upper femur of five months' duration had variable but persistent pain with the ice-tongs in spite of apparently correct mechanical alignment of the apparatus. A patient tends to become panicky with the persistence of the pain and begs for the removal of the calipers. Necessarily then very minute details must be observed for the comfort of the patient; details which the unobserving or untrained man may entirely miss, consequently the condemnation of the method.

The technique of application is not difficult but again a question of nicety as to details. We first insist upon an overnight skin preparation. If this is not feasible at least six hours sterilization of the skin is much safer than a few minutes. The procedure in either a fresh or old fracture is much easier under general anesthesia and with preliminary morphine and scopolamin a short gas anesthetic is all that is required. Before the application of the calipers, the ring of the Thomas splint with its knee flexion attachment is slipped up onto the thigh, then a short Buck's extension from just below the knee is applied and arranged for attachment to the hinged portion. The skin about the knee is then prepared and carefully draped with towels. The left hand is then used to locate the adductor tubercle on the internal condyle and a corresponding point at the same level on the opposite condyle. The skin is then pushed upward slightly so that the downward pull of the ice-tongs will not produce tension on the skin. An incision about three-fourths of an inch long is made just anterior and above the adductor tubercle and the prong of the ice-tong inserted to the bone. The external caliper point is inserted through a similar incision on the same horizontal plane as the first and just in front of the ilio-tibial band. The points are driven into the cortex a distance of about one-fourth of an inch, by the tap of a hammer. The set screws on the handle of the tongs are then tightened so that the points will neither slip out nor penetrate deeper. The prong wounds are then carefully dressed with a moist solution and the Thomas hinge splint slipped up into position. Towels are then used to sling the thigh in position as in the usual method of Thomas splint application. The traction force applied to the ice-tongs is in a parallel plane with the femoral shaft, while the hinge portion of the splint is for the flexed leg with its short skin extension attached to a foot piece to hold the foot at right angles and then to the end of the splint with enough traction to give added fixation. The whole apparatus should then be suspended to the overhead frame, preferably a gas pipe arrangement. The ring of the Thomas splint is suspended by pulleys and weights so that the patient can be elevated from the bed with ease and also to hold the ring snugly against the tuberosity of the ishium. The traction proper is carried over a pulley at the foot of the bed so that adequate weight can be used without pain from ring pressure.

At the time of application of the apparatus no attempt is made to reduce the fracture, as the proper aligned traction force with flexion of the thigh and knee and rotation of the extremity, as indicated in the particular fracture, accomplish this feat in a period of a few hours in a fresh fracture and a much longer time, sometimes two weeks, in the old fractures with considerable overriding. The amount of weight varies from ten to thirty-five pounds, depending again upon the shortening to be overcome. This should be lessened when correct length is obtained otherwise with the muscles fatigued increased extension and reversion of the deformity might occur. Check-up x-rays should be taken at the bedside about three days after the initial procedure and again approximately each week. This is the only adequate information we have of the reduction obtained, as measurements and palpation are not accurate enough.

With proper overhead suspension and counter-balancing, as mentioned earlier, and calipers so placed that no pull or tension is exerted on the skin, there should be no pain by this method of traction and fixation. However, any jarring of the bed, overhead frame, or weight produces pain because of the direct disturbance of the fragments. This becomes less though as repair of the fracture takes place.

As to the length of time in which the caliper traction should be used, each fracture presents its own problem, although the usual mistake is too early removal. The time varies from four to seven weeks, following which plaster fixation in a hip spica, including the foot, is necessary for an additional four to six weeks. Great care should be exercised when the cast is applied so that the fragments be not disturbed. To maintain better fixation and slight traction, moleskin adhesive is applied, which is turned back over the edge of the setting plaster just above the ankle before the foot portion of the cast is applied.

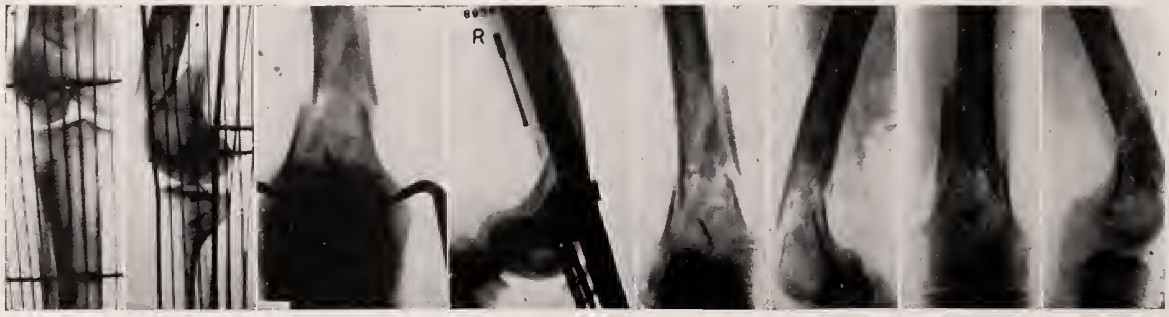
Protection of these severe fractures of the femur by a walking caliper splint is very good insurance against bowing or refracture and is necessary until strong union is formed. In the average case of this selective group, protective fixation is necessary for four months.

The ideal situations for skeletal traction as brought out by the cases presented here, are first and foremost, the simple, oblique, comminuted, non-impacted fracture of the lower one-third of the femur. These may be subdivided into the supra-condylar and the inter-condylar T fracture. The distal fragment in each case is rotated posteriorly by the pull of the gastrocnemius, a displacement which is very difficult to maintain corrected except by direct traction and fixation with knee flexion. The fractures of two weeks and longer duration in any portion of the shaft with malposition and overriding are also ideal types, as are the compound or infected fractures in any region, especially if malposition is present. In a compound fracture of the lower one-fourth of the femur, the ice-tongs may be applied in the usual manner except that the tuberosities of the tibia afford the anchorage for the tong points rather than the condyles, and thus they are carried away from the potentially infected area.

As a rule fractures in children of the types mentioned do not require skeletal traction and, if indicated, care should be exercised so as to not damage the lower epiphysis of the femur. The calipers here should be placed higher so as to penetrate the shaft above the epiphysis.

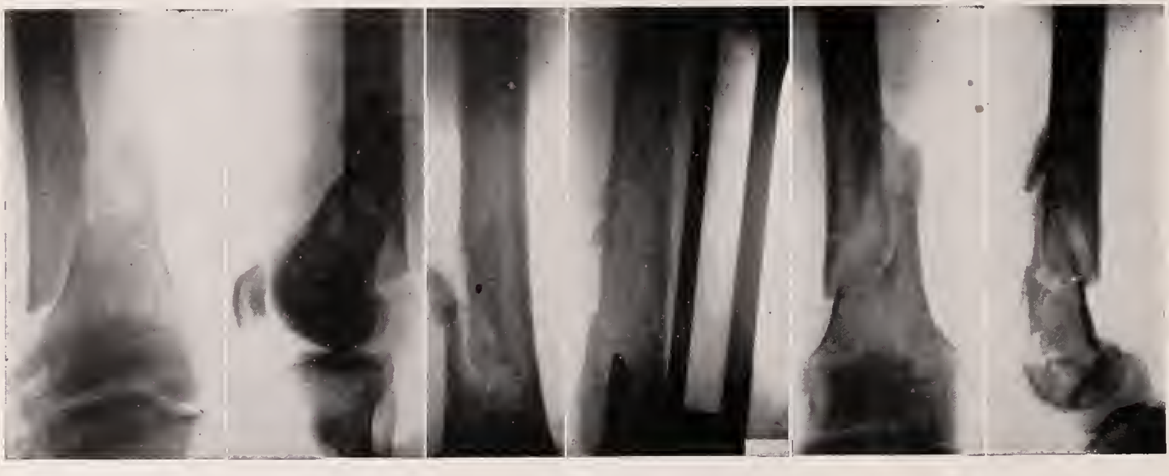
In general, we may say that any fracture of the shaft of the femur which is not readily reduced by manipulation and skin traction can be reduced by skeletal traction and uniform good results obtained.

The first case presented represents an intercondylar T fracture involving the knee joint. A young man sustained a severe direct blow and twisting injury of the right lower in an automobile accident. Six hours after the injury he was put up in a Thomas hinge splint with ninety degrees flexion of the knee and ice-tong traction of thirty pounds. The series of x-rays taken at various intervals outline the result as to reduction and its maintenance. Three weeks after injury he developed a thrombophlebitis in the other extremity. A hip spica was applied five weeks after injury and repeated six weeks later, as union was found to be delayed. Three months after the accident he was weight-bearing in a walking caliper with lateral moulded splints. A course of physiotherapy very rapidly increased his knee motion. At the end of five and one-half months he was walking with a cane, having discarded the caliper and at six and one-half months working as an auto mechanic. Examination one year later revealed anatomic alinement and knee flexion to thirty degrees less than right angles with extension complete. He states that the other extremity as a result of the thrombophlebitis is more troublesome than the one fractured.



A B C D

Fig. I. A—Comminuted intercondylar T fracture in wire splint at time of admission to hospital.
B—Check-up two days after application of ice-tongs. (Note 90 degree flexion of leg on thigh, which tends to restore normal anterior bow of lower femur. Prongs of ice-tongs may be seen penetrating condyles but not joint.
C—Position in cast six weeks after reduction.
D—Appearance seven months after injury. Fracture lines and fragments still discernible, although union was quite firm.

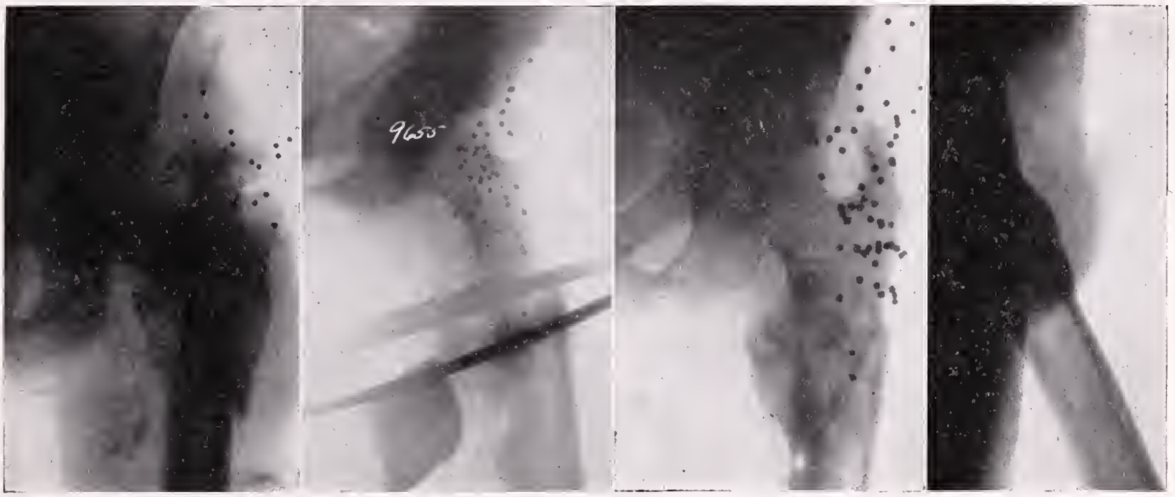


A B C

Fig. II. A—Usual position before reduction.
B—Check-up three days after reduction.
C—Position and alinement three months later. Union moderately firm.

The next patient and his series of x-rays disclose a simple comminuted oblique fracture of the lower third of the shaft with characteristic displacement. The mechanism here again was a combination of violent twisting and direct blow. While attempting to halter break a mule, his leg became tangled in the rope and he was thrown violently against a post which served as a fulcrum on the lower thigh. Following an overnight preparation of the knee region, as he arrived from a distance late at night, caliper traction was applied in the usual manner. The knee flexion in a fracture in this region should be about forty degrees, rather than ninety as in the first case.

Twenty-five pounds extension was used at the onset and after the first check-up reduced to eighteen. In spite of this he was slightly overpulled, as indicated by the third x-ray. At the time of the plaster fixation, five weeks following the injury, only five pounds were used so that with the removal of the calipers there was no sudden decrease of extension. The amount of weight can be quite accurately checked by the use of a simple spring balance which is suspended between the ice-tongs and the end of the Thomas splint to which the extension rope is attached.



A B C

Fig. III. A—Two and one-half inches overriding with malposition and extensive new bone formation.
B—Three days after open procedure with direct bone traction of thirty-five pounds.
C—Antero posterior and lateral views of fracture, one year after operation.

During the third week this man developed thrombophlebitis in the fractured limb and also a pleurisy with effusion.

In the hip spica the knee was held in about twenty-five degrees flexion as we feared posterior angulation if a straight position were permitted. At the end of two months union was firm enough to permit a walking caliper, which he is wearing at present, four months after the injury.

His permanent disability should be very slight, and due chiefly to the thrombophlebitis which will propably produce troublesome swelling for a considerable period.

The third patient is that of a young darky, who three months before admission, sustained a compound comminuted fracture of the upper third of the femur as a result of a discharge from a shot gun at close range. He had an extensive wound of the upper thigh and gluteal region. Partial debridment and plaster fixation was done immediately but according to the patient no traction was used. At the time of our first examination three months later he was in a hip spica without traction, had a draining sinus in the upper thigh, fixation of the hip and knee joints, and two and one-half inches shortening of the femur. His first x-ray tells well the story. We were, therefore, confronted with a chronic osteomyelitis, malposition, and overriding of the upper femur giving a completely functionless extremity.

One week after admission an open procedure was performed. The callus was broken up, considerable dead bone, and several shot were removed. The wound was dressed wide open with vaseline strips. Calipers were then applied to the lower femur and the extremity suspended in forty-five degree flexion of the thigh and twenty degrees abduction. The accompanying photograph discloses better than description the "set-up" used for this patient. Weight over the pulley

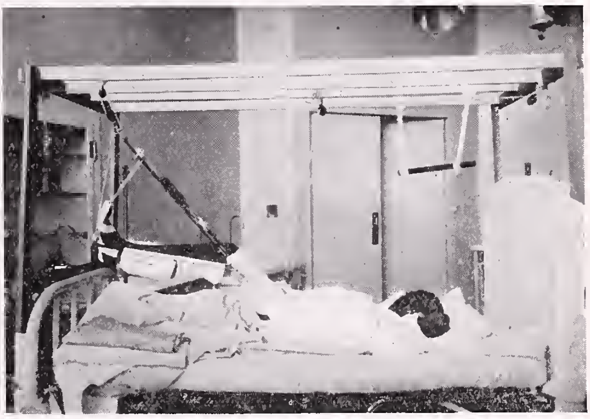


Fig. IV. Case 3 in hinge Thomas splint with ice-tong traction. Double pulleys are used for the traction from end of Thomas splint to frame and also from the ring for counter-balance so as to give a 4 to 1 advantage thus permitting lighter weights.

at the foot of the Balkan frame plus counter pressure traction of the Thomas splint amounted to thirty-five pounds. Three days after the operation check-up x-rays were taken following which the flexion was increased fifteen degrees as the short upper fragment was found flexed beyond the distal one. Subsequent x-rays proved satisfactory as to position and alinement. It is interesting to note that in three days shortening had been entirely overcome.

At the end of six weeks skin traction was substituted for the calipers and he was continued in suspension with a straight Thomas splint. This is a convenient way to carry on the treatment if plaster fixation is not contemplated or must be delayed for any reason. For early ambulatory fixation after discontinuing the ice-tongs, a plaster hip spica is much safer than a walking caliper, the latter, however, being essential in this fracture as union has been very slow due to the chronic osteomyelitis.

One year after operation this man has firm union, an intermittently draining sinus of minor degree, and sixty degree range of flexion of the knee. Due to the long fixation before and after operation the knee fixation has been quite troublesome, but with persistent physiotherapy and very careful manipulation under anesthesia on one occasion, motion has been steadily increasing.

We feel that with the types of cases presented here any open-minded surgeon must agree that without caliper traction, the results would have been much less brilliant than has been possible by this method, which becomes simpler and safer with repeated applications. We do not wish to be over enthusiastic and state that all fractures of the femur with overriding should be treated by this method, for the Thomas splint with a well applied moleskin adhesive extension, proper counter-poise and position of the extremity placed to meet the fundamental principles of fragment displacement, will in the ordinary case give very satisfactory results.

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TECHNIC FOR THE IDEAL SKIN-GRAFT

WITH REPORT OF AN EXTENSIVE LYMPHANGIOMA PIGMENTOSA VERRUCOSA

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The ideal skin-graft should secure the shortest possible period of convalescence, the greatest per cent of successful "takes" and the nearest possible approach to the normal appearance of the newly covered area.

Mere dermalization of a denuded area by transplantation of autogenous skin is easy of attainment. Dermalization alone should not be considered a satisfactory result. An ideal cosmetic result such as is desired in exposed portions of the body demands a smooth scarless unmottled surface resembling as much as possible the undamaged skin. Attainment of this ideal requires an attention to detail much greater than is needed for mere dermalization. The finer points in cosmetic skin-grafting are not adequately covered in standard surgical texts. The possibilities of accurate surface restoration are not always fully appreciated. The older surgeons who first successfully grafted skin were rightfully elated at their success in covering the area with skin and thus avoiding scar contracture. We are now not contented with the results that were formerly satisfactory but desire a more perfect cosmetic result.

Many factors enter into the ideal skin graft technique. The complete or partial failure of any one of these lessens the approach to perfection. The important considerations involved are:

1. Time to Graft.
2. Control of Granulations.
3. Preparation of Recipient Field.
4. Preparation of Donor Field.
5. Type of Graft.
6. Securing and Transferring the Graft.
7. Dressing and After Care.

1. Time to Graft:

A fresh wound should be grafted immediately. Waiting for a growth of granulations as usually recommended is wasting time. Preliminary granulation of the surface is unnecessary even when there is considerable depression below the surrounding healthy tissue.

The natural subcutaneous tissues fill in rapidly under the graft and by the time it is well healed the depression has disappeared. Indeed, permitting granulations to form before the graft is applied is conducive to an uneven surface. The observance of this rule is especially important on the face after excision of carcinomata, pigmented moles, etc., and is applicable in every instance where there is not extreme loss of subdermal tissues.

2. Control of Granulations:

A take is seldom successful in the presence of infection. An old wound must be free from infection and exuberant granulations. The use of antiseptic washes is probably useless. If potent enough to destroy bacterial infection they are also potent enough to injure the tissues. The best means of pre-operative care in the presence of infection is the application of zinc oxide adhesive plaster. The plaster keeps down overgrowth of granulation tissue until such time as the infection is over-come by natural anti-bodies formed in the wound secretions and the pus and virulent organisms are replaced by the antiseptic wound secretion. The naked-eye appearance of the denuded area and absence of surrounding inflammatory reaction are sufficient to indicate absence of infection although bacteriological culture of wound secretions may be resorted to. If granulations have been permitted to become exuberant thorough curettage followed by a few days of adhesive strapping should be done. The graft is not applied immediately after curettment of granulations because the excessive bleeding prevents successful takes.

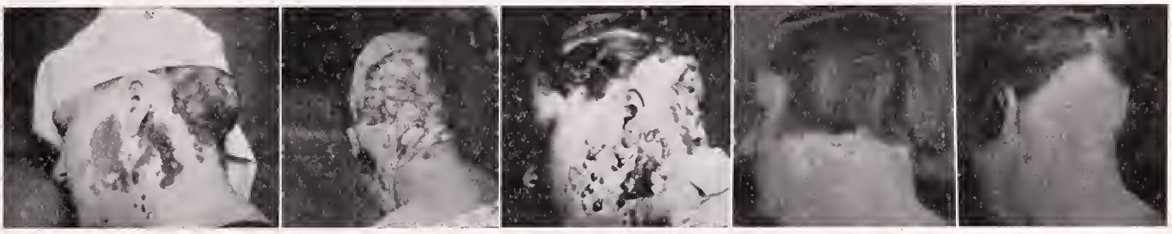

Fig. I Fig. II Fig. III Fig. IV Fig. V

Fig. I. Case of Lymphangioma Verrucosa Pigmentosa with growth over occiput extending to periosteum. Immediate graft against periosteum with perfect subsequent filling in of sub-dermal tissues to proper level.

Fig. II. Appearance of grafts under tightly fitting parrafin gauze. Gauze is to be held in firm immovable contact by adhesive strips.

Fig. III. Appearance at end of ten days when parrafin gauze was first removed. One area below the ear had slipped because of inadequate application of adhesive strips and this area failed to take.

Figs. IV and V. Four and Five show the final result, smooth, soft, pliable, and the same elevation as surrounding skin. The only rough area is below the ear where the first graft was permitted to slip because of improper application of adhesive strapping over the parrafin gauze dressing.

3. Preparation of Recipient Field:

At the time the graft is applied if on an aseptic area surgically denuded only two precautions are necessary. The first needs hardly to be mentioned, that is prevention of contamination. The second is control of bleeding. If possible, all bleeding should be controlled by gauze pressure and waiting until coagulation has occurred. No ligature should be applied unless absolutely necessary since an area about the site of ligature will surely fail to take. Adrenalin and carefully applied gauze pressure will in most cases that are relatively superficial after the lapse of a few minutes control all oozing and bleeding. Curettage immediately before application of the graft is detrimental because of the capillary oozing that is induced.

A wound preoperatively treated by adhesive strapping should be thoroughly irrigated with normal salt solution but no antiseptic washing or rubbing with gauze should be done. If the infection is eliminated the excess of leucocytic secretion that has accumulated under the adhesive plaster will readily wash off with salt solution irrigation.

The common impression that application and removal of adhesive dressing from a raw surface is painful is erroneous.

To recapitulate—In a denuded area resulting from aseptic surgical removal of non-infectious tissue such as a large pigmented mole skin grafting should be done immediately. In an infected denuded area adhesive strap dressing should be applied daily until the infection has subsided before skin-grafting is done.

4. Preparation of Donor Field:

Although there is the temptation to paint with iodine or wash with alcohol the donor field, it should be remembered that these antiseptics reduce the vitality of the grafted skin. Thorough washing with soap and water followed by salt solution irrigation gives efficient asepsis without damaging the transposed cells.

5. The Type of Graft:

The Riverdin, Thiersch and Wolfe grafts are to be considered only because of their historical interest. The Riverdin grafts or 2 to 6 mm in diameter leave so many intervening spaces between hillocks of skin for scar tissue to form and contract that the end result is a rough mottled surface far from ideal. The Wolfe graft consisting as it does of a thick layer of both dermis and epidermis is seldom a successful take and also results in an elevated uneven surface. The Thiersch is the most satisfactory of the three and approximates the most desirable type of graft. Thiersch, however, recommended application of the graft to freshly curetted surface and did not stress the importance of getting only epidermis and uniformity of thickness. The ideal graft for perfect cosmetic result is one that is as thin as can be shaved off in a large strip with a sharp razor and will still hold together as a sheet of skin. It must also be of uniform thickness. The underlying surface should be left exuding serum rather than oozing blood. The larger the strip compatible with uniform thickness the more smooth will be the final result.

It has been demonstrated that skin-grafts can be preserved up to 24 hours in normal salt solution but immediate transferral from donor to recipient is preferable. That the graft should be autogenous whenever possible is now well known though heterogeneous grafts are often successful. On some individuals heterogeneous grafts from various people are always unsuccessful.

6. The following technic for obtaining the graft and transferring it has served well:

1. Moisten the donor skin area with normal salt solution and cleanse the tissue forceps, teasing needles and cutting blades before each strip is removed with normal salt solution. Serum partially dried on the instruments causes rolling up of the strip and sticking that obviates smooth application.
2. Use safety razor blades frequently changed for sharpness as cutting instrument. A blade may be firmly clamped in forceps for better handling.
3. Flatten the donor skin area by pressure and traction of wood blocks at each extremity of the field.
4. Cut with gentle sawing motion at uniform depth and with care to avoid cutting through the skin until the desired length is reached. As the skin is cut through it should slide upward over the blade.
5. Transfer to the recipient. Lay the edge of the blade on the area to be covered. Tease a little of the graft on to the denuded area where it will stick sufficiently to hold while the razor blade is then drawn away slowly. The graft will then be smoothed out and put on a little tension as it slides from the blade to the denuded area. With teasing needles flatten out the graft and put it on as much stretch as possible and with its edges smoothly and closely fitted to the edges of the other grafts. Time spent in apposition of the several pieces of transferred skin will be well repaid.

Gently but firmly press the skin in position with a blunt clean instrument that will not stick to the graft and pull it away when you attempt to remove it. Air bubbles should be pressed from beneath the graft.

7. Dressing and After Care:

With the grafts all smoothly fitted into place it is necessary to hold them there. Often the slipping of a dressing displaces grafts and causes roughness or failure to take. This can be obviated by the following dry dressing. Cut and apply parrafin gauze in such shapes and sizes that the entire area can be covered in such manner that the parrafin gauze is in close contact with the grafts. Then avoiding any displacement of grafts at this stage apply strips of chiropodists tape across the parrafin gauze to hold the latter firmly and immovably against the grafts. Use as much tape as is necessary to immobilize the dressing but do not cover so much as to prevent free escape of secretions and interchange of air. Finally apply several thicknesses of gauze dressing and a firm bandage.

Subsequent dressings after 48 hours should consist of removal of the dressing as far as the parrafin gauze. If secretions have formed and dried it is better to leave the dressing unchanged than to endanger loosening a graft by careless traction on the superimposed gauze. It is desirable to change the external gauze, however, and this can usually be done without loosening the graft if counter pressure is made against the parrafin gauze when the outer dressings are removed. The parrafin gauze is not removed until the eighth or ninth day when all successful grafts will be firmly attached. During the next three weeks considerable desquamation takes place and occasional removal of partially desquamated skin by tissue forceps will be desirable. After three to four weeks all dressings may be removed and gentle massage with olive oil instituted to secure greater softness and smoothness.

Scarring, contraction and roughness are reduced to a minimum in this technic by:

1. Securing as large grafts as possible to reduce intervening linear scars.
2. Having a uniform thickness of grafts.
3. Having thin epidermal grafts.
4. Obtaining intimate contact of grafts and bed throughout.
5. Fitting the graft edges accurately.
6. Putting the grafts on a tension.
7. Using a dry immobilizing dressing.
8. Not changing the immobilizing dressing until grafts have firmly united.

All women must be taught that leucorrhea is abnormal and often a sign of danger, that profuse and frequent menstruation means trouble and that any kind of a discharge after the menopause must be especially feared and investigated. —Dr. Southgate Leigh (*Virginia Medical Monthly*).

ABRUPTIO PLACENTAE*

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Antepartum hemorrhage, particularly in the last trimester of pregnancy, is one of the major disasters of pregnancy. Placenta previa has been given more importance, in this connection, than is perhaps its due. Another form of antepartum hemorrhage, abruptio placentae, on account of its frequency and high maternal and fetal mortality, should take an equal rank with placenta previa. The name was suggested by DeLee as a substitute for the unwieldy but descriptive "Premature Separation of the Normally Implanted Placenta." Other symptoms are "Accidental Hemorrhage" and "Ablatio Placentae." They all refer to a condition in which the placenta, normally implanted in the upper uterine segment, becomes in some way detached from the uterine wall and as a result, the uterine sinuses lie open and hemorrhage ensues. As a clinical entity historically, abruptio placentae goes back to 1776, when Rigby differentiated it from placenta previa, and it is from him that we get the name "Accidental Hemorrhage."

The exact cause is still unknown. Formerly endometritis, myometritis, decidual inflammation and degeneration were suggested separately and collectively. Trauma is cited is many case reports and undoubtedly often acts as an exciting cause. Premature separation may occur during labor as the result of traction on an abnormally shortened cord, during version or the use of forceps, and as the result of sudden emptying of the uterus in polyhydramnion or the delivery of the first twin. In 1918, Morse was able to partially simulate the condition in laboratory animals by ligation of uterine vessels, distention of the uterus with salt solution, or by torsion of a uterine horn. In recent years, the trend of opinion favors toxemia. This takes us back to 1885, when Winter called attention to the frequency of albuminuria in cases of this nature. After him, various writers corroborated his findings and assigned nephritis as the principal factor in the production of premature separation. Today, however, albuminuria is regarded as only one manifestation of some toxemic process. Willson gives credit to Couvelaire for having made the first important contribution on this subject in 1911 and 1912, when he described three cases, giving detailed pathological findings in the uterine wall, and assigning toxemia of unknown origin as a cause. He suggested the name "Utero-placental Apoplexy," but this indicates a difference of degree only, from the less severe types of abruptio placentae. Williams in 1915 reported similar findings and a similar conclusion. DeLee, Williams and Willson incline to the view that the toxin is of the nature of a hemorrhagin, and Willson believes that it is produced in the placenta and is similar to snake venom in action. In 1926, Hofbauer produced premature separation of the placenta in experimental animals by the intravenous or intracardial injections of histamine.

Our knowledge of the pathology of premature separation is derived mostly from the findings of Couvelaire in France and Williams in this country. In the more grave cases, section of the uterine wall shows it to be infiltrated with extravasated blood, even to the dissociation of the separate muscle fibres and limited largely to the placental site, and here more abundantly near the peritoneal surface. There is also edema present, degeneration of muscle fibres, thrombosis of the smaller veins, especially back of the placental area and a hemorrhagic infiltration of the decidua. Williams finds only a difference of degree in the less severe cases. The uterus itself is of a black and blue color, with a coppery tinge. Petechiae are found under the serous coat and also peritoneal fissures, which may cause intra-abdominal bleeding. The uterus looks very much like an ovarian cyst with a twisted pedicle. The mechanism of the bleeding is somewhat as follows: due to an abnormal permeability or friability of the smaller blood vessels from whatever cause, an effusion of blood appears in the decidua basalis, which acting as a fluid wedge, spreads towards the periphery. In some cases, this retroplacental hematoma may be limited to a small portion of the placental site and no harm results, as is sometimes discovered in the post-partum examination of the placenta. Usually, the blood continues to cleave its way outward until the placental margin is reached. Then it may follow one of several courses. It may break through into the amniotic sac or flow down behind the membranes toward the cervix and be stopped there by adherent membranes or by a ball valve action of the presenting part. Any one of these would be a concealed hemorrhage. In about 68 per cent of the cases, the blood finds its way out through the cervical canal and appears as a visible hemorrhage.

Comparison of the frequency of placenta previa and abruptio is interesting. Williams found 57 cases of premature separation (1-156) and 64 of placenta previa (1-140) in 9,000 labors at the Johns Hopkins Hospital. Greenhill, at the Chicago Lying-In Hospital, found 82 cases (1-295) and 70 of placenta previa (1-340) in 24,451 labors. Primiparae are seldom affected. Willson found 73.1 per cent of his series were multiparae, with an average parity of 5.3 and an average age of 32.2 years.

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The diagnosis is usually easy and once a case is seen, it will not easily be forgotten. The patient ordinarily complains of a sudden, severe, cramplike or tearing abdominal pain, persistent in character and in intensity, and followed by nausea and faintness or actual collapse. The pulse rate is accelerated (100-120), but may be normal at first. Abdominal examination will show a hard tender uterus with occasionally a bulging at the placental site. Due to the board-like rigidity of the uterus, the fetus cannot be outlined. Nor can the fetal heart be heard, except rarely in a slight partial separation. In more than half the cases, vaginal hemorrhage will be found. As time goes on and in the grave cases especially, the woman becomes more restless, moans more or less persistently and complains of thirst, faintness, nausea and difficulty in breathing. The pulse becomes more rapid, is often of good volume apparently, but the blood pressure drops and the hemoglobin percentage gradually decreases. The skin is covered with a cold, clammy sweat, the mucous membranes become pale, and the picture takes on a desperate aspect. Unless some action is taken the case will progress to convulsive twitchings or actual convulsions, coma, and death.

The most common error in the differential diagnosis is the confusion of abruptio placentae with placenta previa, largely on account of the ante-partum hemorrhage. Placenta previa is ordinarily not accompanied by pain, but if it is, the pain is that of the rhythmic uterine contractions of labor, while that of premature separation is constant. The onset of placenta previa is quiet, the first hemorrhage is ordinarily mild, always external and the symptoms are proportionate to the amount of blood lost, and a pelvic examination readily reveals the placenta over the internal os or nearby. Uterine rupture is to be thought of also, but practically always occurs during labor, especially dystocia, and is followed by cessation of the uterine contractions, recession of the presenting part and rapidly developing shock.

The maternal mortality in the series collected by Willson was 55 per cent and the fetal mortality 92.5 per cent. Williams' figures 7.5 per cent and 72.5 per cent respectively, are much lower but represent the results of a single obstetrical service, while Willson's figures are from the general literature.

The following four cases were seen by the writer during the years 1922-1927:

(I) Mrs. E. R., P-ii, 36, white. Family history negative. One previous spontaneous delivery and two spontaneous abortions. Luetic history and scars of old secondaries over body. Present pregnancy uneventful except for slight rise in B. P. during the last five or six weeks before delivery. She was seen at home, Aug. 8, 1922, complaining of abdominal pain and moderate vaginal hemorrhage. Her condition was not alarming and the diagnosis was not made until she had arrived at St. Joseph's hospital. Abdominal examination showed the uterus to be extremely hard, approaching closely the classic "board-like rigidity". The fetus could not be outlined nor could the fetal heart tones be heard. No definite uterine contractions were perceptible. The vaginal hemorrhage was increased. Temperature was normal, pulse 96 but weak, respirations normal. She became very restless and began to vomit. Medication at this time was Pituitrin, ½ cc., Morphine Sulphate, gr. ¼ and Atropine Sulphate, gr. 1/150. She rested quietly for about an hour after the administration of the opiate, and her general condition did not become worse. The cervix was unchanged from that found during pregnancy. She was seen by Dr. Simanek, Director of the Surgical Service, and immediate operation was decided upon. A classical cesarean section was done under ether anesthesia and a dead male child was delivered. The uterus was filled with a considerable quantity of blood, mostly clotted, and the placenta was completely detached from the uterine wall. The uterus contracted readily after the injection of pituitrin into the uterine wall. She returned from the operating room in fair condition. Convalescence was rather stormy. The temperature went to 101° F., on the 9th and 10th days. She left the hospital on the 15th day, feeling quite well. In a succeeding pregnancy, and because she had another impending toxemia, labor was induced at about the end of 8th calendar month and a viable child was delivered, which is still living.

(II). Mrs. H. G., 24, white. Three previous full term pregnancies with 3 living children, and 3 spontaneous abortions. History otherwise negative. Present pregnancy uneventful as far as known. She was seen on June 3, 1923 with Dr. Earl Connolly. She was complaining of vaginal hemorrhage and severe abdominal pain. Temperature and respirations were normal, pulse was about 100. The abdomen was extremely tense and tender. The fetal outlines and heart tones were absent. Vaginal hemorrhage was moderate. A diagnosis of abruptio placentae was made and she was removed to St. Joseph's hospital. On admission, the cervix was found to be fully effaced and about 2/3 dilated. As her condition was not alarming, it was thought that a successful delivery could be accomplished vaginally. The dilatation was completed manually, version and extraction were done without difficulty and a still-born female child delivered, followed immediately by the placenta. The uterus contracted readily and no further hemorrhage resulted. Her stay in the hospital was uneventful, except for a temperature of 103° F. on the 11th day, which subsided readily after active catharsis.

(III). Mrs. T. K., 30, white, P-ii. Family and previous history negative. Present pregnancy uneventful except that the systolic B. P. was 135-140 mm. Hg., during the last two or three office visits. She was admitted to St. Joseph's hospital on Jan. 18, 1926. Dr. Magiera, the obstetrical interne, phoned me, saying that the patient was having considerable abdominal pain, vaginal hemorrhage, and the fetus could not be outlined but that she could hear the F. H. T. On my arrival at the hospital, these findings were confirmed. The skin was pale and moist, temperature and respirations were normal, pulse was about 98, and the cervix unchanged from that of a full term pregnancy. The F. H. T. were 140 per minute, regular and easily heard. Because the baby was still alive, it was thought that an attempt should be made at a rapid method of delivery. A vaginal hysterotomy was done and a living male child was delivered with forceps. Convalescence was rather stormy and she left the hospital on the 21st day. She was since delivered of a living male child.

(IV). Mrs. L. C., 30, white, P-vi. Family and previous history negative. All previous pregnancies full term and uneventful, except during the fifth, someone had done a round ligament operation and perineorrhaphy on her, during the third month of pregnancy. Present pregnancy uneventful as far as known, except for marked varicosities of legs and vulva. She had no prenatal care. I saw her first at her home on Oct. 12, 1927. She was lying in bed, moaning and complaining of abdominal pain. About thirty minutes previously, she had been found unconscious on the bath room floor by her husband. She soon regained consciousness and returned to bed. Temperature and respirations were normal, pulse rate slightly increased, abdomen board-like and tender, F. H. T. absent and fetal outlines could not be palpated. While I was preparing a hypo, preliminary to taking her to the hospital, she said that "the water had broken". Inspection showed a moderate bloody vaginal discharge. On arrival at St. Joseph's hospital, it was found that her pulse was about 120, skin cold and clammy, she was quite restless and the hemorrhage increased in amount. Ergot and pituitrin were given hypodermically, a Spanish windlass applied, the foot of the bed was elevated, external heat applied, and she was given another hypodermic of morphine. Her restlessness decreased and the pulse rate dropped to 90, but only for about an hour, when it climbed rapidly to 140. She was then taken to the operating room and a classical cesarean section was done. On opening the uterus, the escaped blood was found to be entirely outside the amniotic cavity, the placenta separated over 2/3 of its area, and the baby was dead. The uterus contracted poorly at first, but closed down satisfactorily after the use of pituitrin. Continued oozing from suture holes occurred during the closing of the uterine wound. Glucose solution was administered intravenously while she was on the table but to no avail. An attempt was made to give her more after her return to bed, but her veins were collapsed. She died just one hour after being returned to bed.

This patient should have had a transfusion before or during the section, and probably also an hysterectomy. Autopsy was not permitted.

The treatment depends upon whether the case is slight or severe, the condition of the cervix and proximity to a good hospital, but in any case, is always active. When the patient shows little or no signs of shock, the distention of the uterus is not rapidly progressive, and the cervix is fully effaced and dilated or easily dilatable, immediate delivery can be carried out, followed by a tight uterine tamponade, if there is any tendency to post-partum hemorrhage, and general supportive measures. If the cervix is uneffaced or not easily dilatable, rupture of the membranes will partially relieve the uterine distention, a tight vaginal tamponade will promote effacement and dilatation, a Spanish windlass or Beck binder may be tightly applied, morphine is given, along with small and frequent doses of pituitrin and ergot hypodermically, and then one can await labor pains to supervene, meanwhile watching the pulse, blood pressure and hemoglobin percentages. If the intra-uterine bleeding is rapidly progressive, as indicated by abdominal measurement, along with a falling blood pressure and hemoglobin and a rising pulse rate, one must try to bring about reaction by compression of the abdomen, gum-glucose solution intravenously or blood transfusion, application of external heat, morphine, elevation of the foot of the bed, etc., followed by caesarean section. If, after delivery of the fetus, the uterus fails to contract after packing and the use of pituitrin and ergot, hysterectomy should be done.

In a paper of this nature, one can only roughly sketch the treatment and can hardly make it fit all cases. Local conditions have a bearing, as in a rural district, where the transport of the patient to a hospital is dangerous or very difficult, due to lack of time, condition of roads, distance, etc., so under such circumstances one had better resort to compression, hypodermoclysis, vaginal tamponade, morphine, external heat, pituitrin, etc. As to preventive treatment, one should urge all expectant mothers to take advantage of the prenatal care that is now so generally well understood and available in most every locality. Abruptio placentae can hardly be foretold or prevented directly, so active treatment should follow the appearance of any sign or signs of approaching toxemia.

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Doctor: "I'm afraid I'll have to operate on your liver".

Car Mechanic: "Well, can't you rent me a liver while my old one is being overhauled?"—Kansas City Star.

Nervous Patient: "Is an operation absolutely necessary, Doctor?"

Doctor: "No. but it is customary."—Life.

THE EARLY DIAGNOSIS OF TUBERCULOSIS IN CHILDREN*

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INTRODUCTION

Before we begin on a discussion of any disease it is advisable, for the sake of clearness, to define the condition. Tuberculosis is an infectious disease. Though it was recognized at least two thousand years ago it is only as late as 1882 that the causative organism was isolated by Robert Koch. The definite morphological and biochemical differences between the human and the bovine types of the bacillus were brought out several years later by Theobald Smith and his coworkers.

The disease may be localized in the various organs of the body or, as is more frequently the case, in children, particularly infants, and weakly constituted children, it may become rapidly diffused throughout the entire body. Its course may be acute, sub-acute or chronic. However, while the clinical picture and anatomical aspects may be varying, yet there is one fact which is common to all of its manifestations, namely, that the disease is caused by the tubercle bacillus.

MODES OF INFECTION

Perhaps it will not be amiss to briefly review the modes by which the tubercle bacilli are today thought to enter the body. It is admitted that this phase of the subject is, in spite of the enormous literature, still a matter of vehement controversy. According to Von Pirquet, 95% of all cases of tuberculosis originate by inhalation of dry, infected sputum, or from the spray of coughing by careless infected patients. Calmette and other authorities on this subject are strong believers in the gastro-intestinal tract as the probable avenue of initial infection. Others believe in direct infection of broken skin and mucous membrane, with localization, and subsequent lymphatic distribution. Thus in the pulmonary form, a tubercle is formed in the right lower lobe under the pleura. From there the infection is carried by the lymphatics, and the tracheobronchial glands becomes infected. Here the condition may be arrested, by fibrosis or calcification, or in instances of poor resistance the process may spread either by the lymphatics or the blood stream. The infection may be carried by way of the thoracic duct into the inferior vena cava to the right heart into the lungs and from there by way of the aorta into the general circulation.

It is patent, that heredity, predisposition, and general physical and psychological variations must all be taken into account if we are to do justice to the patient and his family in arriving at a decision or even suspicion that the child has or has not tuberculosis.

GENERAL DISCUSSION

Of late we have grown rather careless in our attitude toward the importance of the tuberculosis problem in children. This is probably due to the fact that there are more recoveries from the disease in the adult today than was true several decades before. Consumption used to be a dreaded disease with rather rigid social isolation and pronounced economic losses. Today, whether because of our increased knowledge in physiological and pathological processes or because of better therapeutic facilities we are inclined to make light of the condition, some even doubting the contagiousness of the disease. I promptly admit that among adults, contact with the tuberculosis patient involves little danger in view of the comparative immunity acquired during frequent exposure as shown by the large percentage of tuberculin positive individuals. With the susceptible child the story is quite different, as we shall see later.

Another erroneous impression that is prevalent today, is that a diagnosis of tuberculosis is a risky proposition unless there are definite clinical and laboratory data such as emaciation, loss in weight, moist cough, fever, presence of physical signs, positive sputum, and positive x-ray films. If one waits for the fulfillment of all of these conditions one will diagnose tuberculosis in the child only at a far advanced stage, and one may as well wait for more corroborative evidence, namely, the post mortem examination of the lungs.

Still another idea is current, to the detriment of the child. Tuberculosis among children is said to be uncommon. This notion is the direct result of our failure to diagnose the condition when it exists. We do not find it, because we do not look for it. That the disease is quite prevalent among children has been shown repeatedly. Thus Dunn and Cohen (American Journal of Diseases of Children, February 1921) report consecutive necropsies in 661 children under 2 years of age with pulmonary tuberculous lesions in twenty per cent of the cases. Hamburger (American Journal of Diseases of Children, June 1927) states that he found tuberculous lesions in twenty-three per cent of babies one year old and forty per cent in children of two years of age in a large number of young children who came to autopsy.

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*Read before the Omaha-Douglas County Medical Society, March 13, 1928.

EARLY DIAGNOSIS

Here we refer to the recognition of the disease in its incipiency. It is very true that an early and definite diagnosis of tuberculosis is connected with numerous difficulties. There are some considerations, however, which, in children, if taken into account lead us into suggestive channels which, if carefully studied aid us in arriving at the diagnosis early in the disease.

1. The history of exposure is of utmost importance. A thorough study should be made of the environment of the child. It is not sufficient to ask whether there is tuberculosis in the grandparents, parents, brothers and sisters. Thorough questioning regarding distant relatives, friends, and neighbors, with whom the child has come in contact, if even for a short time, should be gone into carefully. This is all the more important because we do not know definitely the mode of infection.

It should be remembered that children do not have to necessarily come in contact frequently and for long periods with tubercular patients, but that the infection may be transmitted after even short exposures.

The personal history of the child is equally important. It is well known that breast-fed infants are less easily infected than bottle fed. In older children the disease history together with their habits and physical reactions must be studied in detail. The child's appetite, nature of his activities, rest periods, are all necessary in evaluation of the data.

2. Physical examination. Inspection may or may not reveal much. The apparent general nutrition is a poor index in determining the presence or absence of tuberculosis. The child is not necessarily undernourished or underweight. Reisman (Archives Pediatrics, December, 1925, Vol. 792) has shown that the incidence of under nutrition in tuberculous children is not greater than that of the non-tuberculous groups. Other pediatricians have corroborated these findings in numerous reports. Nor is the hectic flush always present except where there is fever. At first glance many of these children look like good, healthy specimens.

However, there is one outstanding feature which has helped me much in these examinations, and that is the tired and fatigued posture and expression. I am never satisfied with a child who cannot endure quietly and steadily an inspection of one or two minutes. I am particularly suspicious of tuberculosis in the robust looking child with stooped shoulders who gives a history of exposure, and a positive tuberculin reaction.

In the older child, particularly at puberty we meet with the phthisical habitus. These children appear rather tall due to the disproportion between the width of their chest and their height. This effect is quite exaggerated by the long and thin extremities and neck. Nor should the winged scapula be overlooked.

The skin does not have the usual healthy color but is rather discolored and dry.

Palpation will usually reveal enlargement of the cervical lymph glands. These glands feel shotty, they occur in chains and are not tender.

Percussion: One must always bear in mind that the child's thoracic wall is thin and that, therefore, more can be elicited by light, than by heavy percussion. The note over a normal chest is more hyperresonant than that of an adult chest wall. Paravertebral dulness should always be looked for, as this is an indication of tracheobronchial adenopathy. Riviere (Brit. Med. Jour., August 30, 1924) emphasizes this sign thus: "A right sided paravertebral dulness is the hall mark of the tuberculous child, and the diagnostic value of this sign is as good as are the apical crepitations and impairment of resonance which mark a tuberculous infiltration of the adult." Paravertebral dulness may be elicited between the scapulae and often extends to the supraspinous fossa.

Auscultation: This is of little value in the early diagnosis of juvenile tuberculosis. In advanced cases with infiltration and cavitation auscultatory findings are numerous, but since we are concerned with a discussion of early diagnosis enumeration of these findings are beyond our scope. One should not wait for a diagnosis of tuberculosis with the help of the stethoscope alone.

The D'Espine sign should always be looked for. This consists in eliciting an echo following the whispered voice. It is best found by instructing the patient to flex the head on the chest, folding his arms in front. Starting with the bell of the stethoscope high up in the posterior part of the neck we instruct the child to whisper "thirty-three". The echo is normally heard down to the seventh cervical vertebra. When heard lower it indicates enlargement of the tracheobronchial lymph glands. This enlargement may not necessarily be tuberculous in origin, and for this reason this sign is in itself not of great diagnostic help. Together with other symptoms and signs it is quite suggestive.

3. The Tuberculin Test: There exists not a little confusion with regard to the value of the

tuberculin tests in determining a diagnosis of tuberculosis. Generally speaking a positive tuberculin test below one year of age is considered pathognomonic of active tuberculosis. Some authors consider the positive test as a sign of activity up to two years of age. However, whatever the child's age may be, a negative tuberculin test, repeated at several intervals, gives conclusive evidence of absence of tuberculosis infection. One should remember always that the tuberculin test is usually negative in acute infectious diseases such as measles, scarlet fever, diphtheria, tuberculous meningitis or acute general miliary tuberculosis. It is the conscensus of opinion of students of this disease that under these conditions there is an exhaustion of antibodies or a depressed state of the body in which there is not the characteristic tissue response to the toxin.

As to the technique of the test, only two will be mentioned. They are both simple and may be done in the office or in the home.

(a) The Von Pirquet test: This is the most widely used test, because of its simplicity and ease of application. The anterior surface of the forearm is cleansed with soap and water, washed with alcohol and allowed to dry. Two abrasions are made with a scarifier, a drop of old tuberculin is rubbed into one, a drop of saline solution into the other as a control. In from three to forty-eight hours a red papule appears five to ten mm. in size. When this fades, after several days, there is usually slight pigmentation and scaling.

(b) The Mantoux Test: This is the more delicate of the two tests and should be used where there is a suspicion of tuberculosis infection with a negative Pirquet. The technique is similar to that used in the Schick test. The mixture is injected by means of a tuberculin syringe and small needle intracutaneously. The reaction is the same as in the Pirquet test. This procedure requires dilution of the material, but it has the advantage in that a known quantity can be administered. This is of great value, as most pediatricians agree that for a child under ten years of age at least one mg. of tuberculin should give a negative reaction before a suspected case can be pronounced free from tuberculosis.

4. X-ray Findings: The x-ray may be of great value in corroborating an early diagnosis of tuberculosis in children. Especially is this true in cases of tracheobronchial gland enlargement. Nodulation, infiltration with increased density in the hilum shadow may be revealed on the film. However, the specificity of infection cannot be ascertained by the radiogram alone. The glandular enlargement and infiltration may be the results of whooping cough, bronchopneumonia, influenza, asthma, or even secondary to nose and throat and sinus infections. The last three causes of pulmonary infections were clearly brought out by Wasson of Denver recently.

However, one should use the x-ray as a corroborative finding only, and the findings evaluated carefully with clinical data.

One should bear in mind that tuberculosis in childhood, particularly between the ages of five and ten years, is usually a disease of the lymph glands. Apical lesions do occur but these are quite uncommon early in the disease. Slater in his studies found (Amer. Rev. of Tuberc., 10, 1924) that the younger child usually shows involvement of the hilum glands while above the age of eleven the pathology may be found in the parenchyma of the lungs. It is generally conceded that the most common form of tuberculosis in childhood is that limited to the hilum.

SUMMARY

1. Tuberculosis is a fairly common disease of childhood and should be appreciated as such.

2. The diagnosis should be made early before there are signs and symptoms indicating an exhaustive process. This can be done by a careful study of the history, corroborated by data from physical and laboratory findings.

3. The tuberculin test is of much value in the diagnosis of tuberculosis the first two years of life and usually indicates active disease in that period. Later it is of value only in connection with other findings.

4. The x-ray should be studied carefully, and findings evaluated along with other data.

5. Tuberculosis in childhood is essentially a lymph gland tuberculosis involving especially the tracheobronchial and the hilum glands.

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THE FATAL TURN

Two doctors were discussing the sudden death of George Brown.

"I hear old George died from a sprained back".

"No, he had a sprained back, but died of an accident".

"An accident?"

"Yes, they rubbed his back with alcohol."

"Did it poison him?"

"No, but he broke his neck trying to lick it off."

Mrs. A.: "The doctors decided I didn't need an operation, after all."

Mrs. B.: "Oh, too bad. I'm so sorry, dear."—Life.

LYMPHOSARCOMA—CLINICAL AND PATHOLOGICAL OBSERVATIONS ON FIVE CASES*

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Lymphosarcoma was first accurately defined by Kundrat(1) in 1893. He recognized it as a tumor springing from lymphoid tissue, usually a group of lymph nodes, and composed of cells of the lymphoid series imbedded in a fine meshed reticulum. Since the original description there have been numbers of single cases recorded, but no one man seems to have observed any large series of cases at autopsy. One of the most recent and largest reported collections is that of Symmers(2), who encountered seventeen cases among 11,895 autopsies at Bellevue Hospital. MacCallum(3) states that he has studied eight cases. The condition belongs, as Mallory treats it, among the lymphoblastomata or tumors originating in the mesenchyme and composed of cells which tend to differentiate into lymphocytes.

This paper records our observation in five of the six cases of lymphosarcoma which have occurred in our last 950 autopsies. The sixth case, a lymphosarcoma of the duodenum, was previously reported(4). During the same period there have been encountered on the wards of St. Joseph's Hospital fifty-seven cases of lymphoblastoma, 24 of which were lymphosarcoma, 20 were Hodgkin's disease, and 18 were lymphatic leukemia.

Fox and Farley(5) have attempted to clarify the nomenclature of lymph node enlargements by a classification based upon clinical and pathological studies. Applying their criteria to our lymphoblastomata, we found that our lymphosarcomata differed from the other cases observed clinically and pathologically in the following details: There was a principal tumor, made up of massed glands. There were visceral tumors in three of the five cases. The tumors formed coalescing masses in all cases. The growth was clinically rapid in three patients, and slow in two. The mediastinum was involved in four patients, and cachexia was present in three. There was a moderate leucocytosis in three patients. Histologically there was unrestrained hyperplasia of the lymphoid elements, with extension through the gland capsule, in all cases. There were restrained hyperplasia of the endothelial elements, fine fibrosis in four, and giant forms of endothelial elements in one. There were gross necroses in two cases, and fine in four.

CASE REPORTS

Lymphosarcoma of Lymph Nodes. Case 1. C. C., a housewife, aged sixty years, was admitted to St. Joseph's hospital, March 5, 1925, on the service of Dr. J. F. Langdon, complaining of fullness in the abdomen of ten days' duration.

Physical examination revealed an orange-sized, firm mass in the epigastrium, slightly to the left of the midline, and extending down to the umbilicus. The mass was irregular in outline, and one of the irregularities was soft. On cystoscopic examination ureteral catheters passed easily, but urine did not come down readily from the left. Roentgenograms revealed a mass in the abdomen, pushing the left diaphragm three inches upward and limiting its excursion. Pyelograms showed the left kidney displaced downward, but normal in size and shape; the pelvis and calyces were distorted. The white blood count was 21,800, with 92% per cent polymorphonuclears.

Exploratory laparatomy revealed a large mass filling the whole upper left quadrant, extending over to the border of the right rectus, and down two cm. below the umbilicus. The mass was retroperitoneal, pushing the stomach forward, was nodular, and the blood vessels crossing the surface were enormously dilated. Microscopically, a piece of the mass was made up of small to large mononuclear cells, with many hemorrhages into a delicate stroma. She died March 19, 1925.

Anatomic Diagnosis (B. C. R.) Reproperitoneal lymphosarcoma with involvement of all the retroperitoneal lymph nodes, and extension into the posterior mediastinum and spleen; tumor compression of the stomach, left kidney, pancreas, inferior vena cava, and aorta; marked displacement of the stomach to the right; surgical laparotomy wound; healed and calcified tubercles of the left lung and peribronchial lymph nodes; cholecystitis, chronic; cholelithiasis; adenoma of the left kidney; sclerosis of mitral valve; atherosclerosis of aorta and larger branches; varicose veins of left leg; senile atrophy of ovaries, tubes, and uterus; anthracosis of lungs and peribronchial lymph nodes.

Necropsy. The body was emaciated, and the abdomen tympanitic. The large retroperitoneal mass described at operation was made up of large masses of retroperitoneal lymph nodes, extending from the diaphragm down to the bifurcation of the aorta, and compressing the aorta and inferior vena cava. The spleen lay on the left surface of the mass, was lightly adherent to it, and contained many nodules. The liver was pushed to the right. The left adrenal lay on the surface of the mass, but could be easily separated from it. On section the mass was gray, mottled with red from hemorrhage, was quite soft, friable, and contained necrotic regions. The nodules in the spleen had the same appearance, and occupied about five-sixths of the splenic substance. Along the left side of the aorta, just above the diaphragm, was a nodular mass essentially like the retroperitoneal mass. The pancreas was compressed by enlarged nodes, but not invaded. There were healed and calcified tubercles of the left lung and peribronchial lymph nodes. In the gallbladder were a few stones.

Microscopic examination confirmed the previous examination, most of the tumor cells being large. Some mitotic figures were present.

Case II—J. R., a plumber, aged thirty-nine years, was admitted to St. Joseph's Hospital, May 11, 1925, on the service of Dr. D. A. Lynch. Following an automobile accident six months before, he developed pain in his left chest. He had lost considerable weight, his abdomen gradually enlarged, and he was quite constipated. Weakness and bloating forced him to quit work.

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Physical examination revealed marked emaciation and abdominal distention. The skin over the abdomen was tense and there were parcentesis wounds. The spleen was greatly enlarged, reaching below the umbilicus. The urine contained an occasional red blood cell. The white blood count was 11,600, with 73 per cent polymorphonuclears. Fluid aspirated from the peritoneal cavity was turbid, and contained 2800 cells, of which 78 per cent were mononuclears and 22 per cent polymorphonuclears. A second ascitic fluid contained 25,200 cells, with 84 per cent mononuclears.

Anatomic Diagnosis (B. C. R.): Lymphosarcoma of retroperitoneal lymph nodes, and transverse colon; ascites; acute fibrinous peritonitis, localized to the right upper and lower abdominal quadrants; tumor compression of great vessels of abdomen; edema of feet; general emaciation; acute follicular enteritis; passive congestion and edema of liver; fibrous pneumonitis, upper lobe, left; fibrous cholecystitis; healed tubercle at apex of each lung; fibrous pleuritis, right; fibrosis of left adrenal.

Necropsy. The body was emaciated. The abdomen was distended and tympanitic except in the flanks. From one of several paracentesis wounds there exuded a thin, amber colored fluid. The abdomen was filled with greenish fluid, and the anterior parietal peritoneum was red and rough. On the upper surface of the right lobe of the liver was a deposit of fibrin. A large, irregular mass behind the peritoneum obscured the pancreas and left kidney. The spleen was very large and crowded the left leaf of the diaphragm upward. The transverse colon and mesocolon were thick and there were several gray-red ulcers of the lining of the former. The left pleural cavity was partially obliterated by old fibrous adhesions, but the remainder contained amber fluid. The individual peribrobchial lymph nodes were up to 3 cm in their greatest measurement. The peripancreatic lymph nodes were also about 3 cm in diameter, while the head of the pancreas was buried in a gray mass containing soft yellow and pink regions. The retroperitoneal nodes formed a large mass around and compressing the aorta and vena cava, the individual nodes being up to 2 cm. in diameter, but in most cases passing beyond their capsules. The liver weighed 2300 grams, was mottled yellow and purple, cut with increased resistance, and contained numbers of small translucent regions. The mesenteric lymph nodes were up to 1.5 cm. in diameter and on section gray to red and homogeneous. The left adrenal was fibrosed throughout. The solitary follicles of the small intestine were prominent.

Microscopic examination of the retroperitoneal tumor mass revealed extensive replacement of the lymphoid tissue by large cells with excentric, relatively large, lobulated, vesicular or round nuclei containing masses of chromatin usually peripherally distributed. Stroma was scanty. A rare mitotic figure was present, and some large multinuclear cells. There were no eosinophiles. In the peribronchial lymph nodes there was a similar histological picture, with invasion of the lung parenchyma. Similar sections from a lymph node at the brim of the pelvis, peripancreatic lymph nodes, and spleen, revealed the same histology.

The mucosa of the transverse colon was ulcerated and the ulcer base and entire thickness of the wall was infiltrated with the same type of large mononuclear cells with hyperchromatic nuclei. Practically every part of the liver stroma was densely packed with similar cells.

Case III. A. W., a patient of Dr. A. Srb, was a housewife of thirty-six, complaining of pain in the back for two years. This condition had been diagnosed cholecystitis and the gallbladder removed, but without relief. Later signs of fluid developed and the heart was displaced to the right. The urine contained some albumin, many leucocytes, and coarsely granular casts. The white blood count was 15,600, with 80 per cent polymorphonuclears, and the hemoglobin was 78 per cent. Fluid aspirated from the right chest contained 85 per cent small lymphocytes, 13 per cent polymorphonuclears, and 2 per cent large lymphocytes. She died at home.

Anatomic Diagnosis (Dr. E. Ruckensteiner): "Mediastinal lymphosarcoma with extension into the left lung and compression of the left main bronchus, the pulmonary veins, and the esophagus; multiple bronchiectatic abscesses of both lobes of the left lung; empyema, thoracic, left; acute catarrhal enteritis and colitis; hydropericardium; fibrous pleuritis, left; chronic passive congestion of the spleen and liver; atrophic myocardium with scar formation."

Necropsy: The pericardial sac was distended with 50 cc. of clear, colorless fluid. Just above the left pulmonary artery was a small, hard nodule. A firm, nodular mass bulged into the left side of the pericardial sac. The right cardiac ventricle was slightly dilated. The mass seen from the inside of the pericardium bulged slightly into the left auricle, and also compressed the pulmonary veins. Most of the mediastinal and peribronchial lymph nodes were replaced by a mass which filled the mediastium, extending up as high as the bifurcation of the innominate on the right, and to the origin of the carotid and subclavian arteries on the left. The pulmonary artery entered the mass before it bifurcated. The mass filled the space between the posterior surface of the ascending aorta and the right branch of the pulmonary artery. Where the aorta bent over the left bronchus it entered the mass, the arch being embedded in tumor tissue, while the descending aorta lay immediately behind the tumor masses arising from the peribronchial nodes. The left side of the trachea was adjacent to tumor nodules in its lower third, while its bifurcation and the main bronchi were entirely surrounded. The right bronchus was surrounded by tumor tissue down as far as the hilus of the lung, while tumor tissue followed the subdivisions of the left bronchus into the lung itself, where it invaded both lobes, advancing half way from hilus to pleura. The tumor tissue was firm, on section white and almost homogeneous, and sharply demarcated from lung tissue. Some peribronchial lymph nodes, embedded in the tumor, could only be distinguished by their anthracosis. With the exception of a few black nodes at the hilus of the right lung, the peribronchial nodes were replaced by tumor.

Microscopic Examination: The tumor was composed of cells with hyperchromatic nuclei, set in a fine reticulum. The stroma varied and was more abundant near the center of the tumor. Necrotic regions were conspicuous. In some sections the tumor was infiltrating the lung, while bronchioles were dilated and filled with wandering cells and desquamated epithelial cells. There was a marked inflammatory reaction in the lung interstitium, where there were many large phagocytic cells with foamy cytoplasm.

Case IV. A. K., a laborer of thirty-seven, was admitted to St. Joseph's Hospital, April 1, 1922, stating that for six months he had had attacks of cold in the chest with pain and coughing. Recently he had chills and fever in addition to the pain and cough, with expectoration, sweats and general malaise.

Physically he presented only the signs of a bronchopneumonia over his right lower chest, and tenderness over his epigastrium.

Anatomic Diagnosis (B. C. R.): Lymphosarcoma of retroperitoneal and mediastinal lymph nodes, and of liver; marked hydroperitoneum; edema of retroperitoneal soft tissue; hemothorax, right; hyperemia, and edema of the lower lobe of each lung; cloudy swelling of the kidneys; petechial hemorrhages of the lining of the stomach, small and large intestines; obliterative pericarditis; cholecystis, chronic; old amputation of the right forearm.

Necropsy: There was a hard nodular mass at the root of the small mesentery, and around the head of the pancreas. Section through this mass revealed many large gray nodules mottled with yellow and red; the head of the pancreas was compressed by similar masses. Along the thoracic aorta the lymph nodes formed large masses similar in all respects to those in the root of the mesentery. The liver was large, measuring 30 cm. from side to side, 24 cm. from front to back, and 10 cm. vertically; the right lobe was nodular, red to brown, and on multiple broad sections revealed many gray regions mottled with yellow and up to 3 cm. in their greatest measurement.

Microscopically in sections of the retroperitoneal tumor mass, there were round and polygonal cells loosely packed in an alveolar arrangement. The stroma was rather abundant. There were areas of necrosis. In similar sections of the large retroperitoneal lymph nodes, the nodal architecture was entirely replaced by tumor tissue. In sections of the liver were similar nodules of tumor tissue.

Case V. F. D., aged fifty-four years, a construction gang laborer, was admitted to St. Joseph's Hospital, Oct. 24, 1925, complaining of gradually increasing dyspnoea for several months, pain in the right chest for five weeks, with more recent onset of cough, hoarseness, dysphagia, and swelling of the right arm. The onset of the dyspnoea was gradual. Following a coughing spell, his sputum was blood streaked, and he became hoarse. A week before his right arm and fact were swollen. The dysphagia had become marked, even including liquids.

Just before the onset of the dyspnoea there was removed from behind his right ear a warty growth which had been there twenty years, had recently begun to enlarge, and was pronounced a cancer.

Upon admission to the hospital he was orthopneic. Over the right upper lung field there were absence of breath sounds and dulness, while there was limited expansion of the right lung. The left pupil was larger than the right. The right arm was edematous. The veins over the upper manubrium were varicose. There were enlarged right axillary lymph nodes. The apex beat was displaced outward and downward, and there was a blowing apical systolic murmur. Kroenig's field was obliterated on the right. Hoarseness was marked and laryngoscopic examination revealed paralysis of the right vocal cord.

Roentgenological examination revealed a large, irregular density in the upper right lung field, the heart displaced downward and to the left, and the right diaphragm a horizonal line.

The dyspnoea increased, as did other pressure symptoms. His face became extremely edematous, so that his eyes were almost closed. He could rest best when standing and holding his head. Death came on Nov. 26, 1925.

Anatomic Diagnosis: (B. C. R.) Lymphosarcoma arising in the thymic remains and involving the upper lobe of the right lung; metastaic lymphosarcoma of each adrenal gland; passive congestion of the liver and kidneys; thrombosis of superior vena cava and right internal jugular veins, with marked edema of right side of face and right arm, and to a lesser degree of the left side of the face.

Necropsy: There was marked edema of the right side of the face, especially about the eye, and to a lesser extent edema of the left face. Behind the right ear was an old surgical scar. The veins of the right chest were tortuous and distended while those of the right side of the abdominal wall were more prominent than those of the left. The scrotum and penis were edematous.

There was edema of the muscles of the right chest wall, and the right axilla. Straw colored fluid half filled the left pleural cavity. A soft, necrotic mass was present in the right anterior mediastinum, extending to the right, where it invaded the apex of the right lung, and upwards around the veins of the superior mediastinum. The tumor mass occupied the upper portion of the right chest, and on section was gray, with extensive soft yellow regions. The right innominate vein, and the right internal jugular vein far up into the neck, were thrombosed. The tumor mass compressed the aorta, trachea, and bronchi, without invasion, but did invade the right innominate vein. The tongue, buccal and pharyngeal mucosae were swollen. The lower half of each adrenal was replaced by a gray, solid mass.

Microscopic examination of the mediastinal tumor mass revealed masses of small and large deeply staining mononuclear cells, in some of which there were mitotic figures. Occasionally a mass resembling a giant cell was seen. Broad bands of stroma subdivided the tumor. The masses in the adrenals were identical in structure with the mass in the thymic region.

Distribution. Four of our cases were derived from groups of lymph nodes, and one from thymic remains. Symmers(1) gives the distribution of 100 cases collected from his own experience and that of others, as:

SITE	NUMBER
Gastro-intestinal tract	36
Thymic remains	21
Cervical nodes	14
Abdominal nodes	11
Pharynx	7
Tonsil	3
Mouth	2
Inguinal nodes	2
Spleen	1
Axillary nodes	1
Thoracic nodes	1
Prostate	1

The Lymph Nodes. In four of our patients the growth was primary in groups of lymph nodes, three intra-abdominal, and one peribronchial. In the former group there were great masses of fused lymph nodes around the aorta or in the root of the mesentery with compression of the great vessels, and in two cases similar, though less marked, involvement of the mediastinal lymph nodes. MacCallum(2) states that five of the eight cases which he has observed were limited to the abdominal cavity, and that the cells in this type averaged 8 to 12 micra in diameter, about twice the size of the cells in the mediastinal type.

In one of our cases the growth originated in the peribronchial lymph nodes, compressing the mediastinal structures, and invading the left lung. Only one of Symmers(1) cases was primarily mediastinal. MacCallum mentions one such case where the heart wall was invaded by the growth.

In one of our cases the growth was apparently derived from the thymus. In this patient, as in Symmer's(1) thymic cases, symptoms occurred only after the growth was far advanced, and the tumor was very invasive. Symmers emphasizes the short duration of symptoms in lesions of this region, due to marked adaptation to pressure changes within the thorax, so that the growth is very large before the patient complains, and then only a short time intervenes before death.

Miscellaneous lesions. The spleen contained tumor nodules in two of the retroperitoneal cases. In one of the same type there were ulcerating tumor nodules of the transverse colon. The superior vena cava was thrombosed and there were tumor nodules in each adrenal, in the thymic case. The liver contained many tumor nodules in one retroperitoneal case. The lungs were invaded in the mediastinal and thymic cases.

SUMMARY:

Five cases of lymphosarcoma are recorded, representing growths primary in the retroperitoneal, peribronchial, and thymic regions.

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SURGICAL TRANSPLANTATION OF ENDOMETRIAL TISSUE FROM THE UTERUS INTO THE ABDOMINAL WALL*

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Omaha, Nebr.

In 1910 I resected a portion of the small intestine in a woman who had an acute obstruction of the terminal ileum. I found the area of obstruction in the ileum bound to the left ovary by a non-inflammatory mass which proved on microscopic section to be composed of adenomatous tissue of unrecognized origin. After reading Sampson's article in the Archives of Surgery for September, 1921, it occurred to me, for the first time, that the intestinal obstruction just described was probably due to transplanted endometrial tissue growing upon the ovary, which in turn involved an adjacent loop of the terminal ileum and finally resulting in a complete obstruction.

According to Sampson (American Journal of Obstretrics and Gynecology, November, 1922), we have abundant proof that apparently normal uterine and tubal epithelium may be invasive, as demonstrated in the development of adenomyoma from the invasion of the uterine and tubal wall by the epithelium lining their cavities. Sampson asks why every cesarean section, hysterotomy, salpingectomy and ruptured tubal pregnancy is not followed by implantation of endometrial tissue? In a communication to me, he states that F. B. Mallory of Boston, in a personal communication to him, stated that he has examined three specimens of adenoma of endometrial type found in the scar of abdominal incisions after cesarean section. (Surgery, Gynecology and Obstetrics, March, 1924, and American Journal of Obstetrics and Gynecology, November, 1922). Sampson quotes the work of V. C. Jacobson (Archives of Surgery, September, 1922) in which this investigator found that the uterine mucosa of the rabbit may artificially be transplanted into the ovary.

Doctor Sampson, after reading a description of the case to be reported, stated that he had never seen one similar. He suggested that I determine, if possible, whether the endometrial tissue in the abdominal wound was an independent growth of uterine mucosa or an outgrowth of uterine mucosa along the line of the non-absorbable suture which was used to approximate the fundus of the uterus to the abdominal wall. I can definitely state that in this instance, the uterin mucosa grew along the path of the silk suture and formed a distinct sinus lined by endometrial tissue, enlarging into a mass on the external surface of the aponeurosis covering the recti muscles and also infiltrating the scar. The silk suture was easily identified and traced from the abdominal scar into the cavity of the uterus.

CASE REPORT

Mrs. J. S. R., No. 4441 B. Norwegian, age 25, had been married six years, with two children age five and three and no miscarriages. She began menstruating at thirteen and was always regular until September, 1924. During each period she experienced severe pain which had not been relieved by pregnancies. The pain always started the day before the flow and lasted all through the periods, the amount of blood being of negative significance. In 1922 vermiform appendix was removed and in 1926 the right tube and a cystic tumor of the right ovary was removed and the fundus of the uterus attached to the anterior abdominal wall. These operations were performed elsewhere.

This patient presented herself to me on account of severe pain, starting the day before and lasting through menstruation. Since her uterine suspension in 1926 she noticed, during this time, a painful swelling about 4 cm. in diameter just beneath and to the left of the median laparotomy scar. This "menstrual tumor" was first noticed about six months following the uterine fixation and gradually enlarged, becoming a purplish hue during each period. The intrauterine menstrual pain was of the intensity and duration as of the past, but the pain in the abdominal wall in the region of this swelling was of greater severity and relief from it was also requested. This periodically enlarging mass in the abdominal wall was easily diagnosed as transplanted uterine endometrial tissue. This diagnosis was facilitated by the history of the operation, the presence of the fundus in the internal abdominal wall, and the tumor on the aponeurosis enlarging and becoming a purplish hue during menstruation.

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*From the Department of Surgery, Nebraska University College of Medicine.

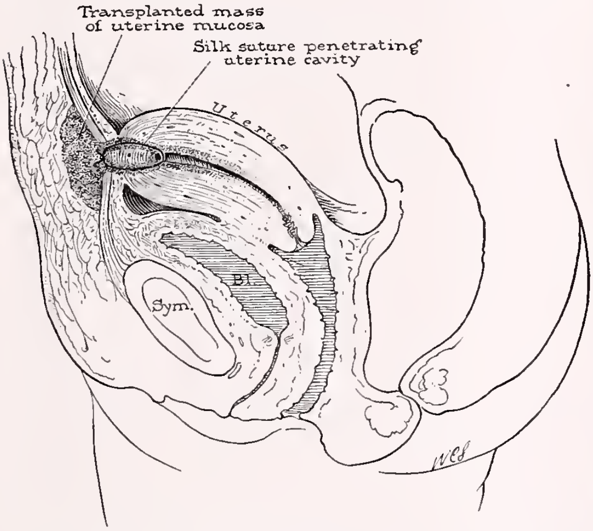
Transplanted mass of uterine mucosa
Silk suture penetrating uterine cavity
Uterus
Bl.
Sym.
WCS

Fig. I—Cross section showing fundus of uterus, silk suture, and endometrial tissue surrounding the suture and infiltrating the abdominal wall.

During the operation a mass about 4 cm. in diameter was found external to the aponeurosis, and embedded, without encapsulation, in the surrounding fatty layer. During its removal a silk suture was encountered extending inwardly to and through the wall of the fundus of the uterus. The tract surrounding the suture was lined by the same appearing tissue found lining the uterine cavity and in the tumor lying upon the aponeurosis. The fundus of the uterus was also firmly attached by adhesions to the anterior abdominal wall which required a sharp knife dissection for its liberation. The left ovary and tube were normal, but the previously resected right ovary was found firmly embedded by adhesions to the omentum. Owing to the history of dysmenorrhea and the presence of an enlarged boggy uterus, a resection of the upper half of the body of the uterus was performed. The remaining portion of the previously resected ovary was separated from adhesions and completely removed. Since this last operation the patient has menstruated twice and for the first time in her life has done so painlessly.

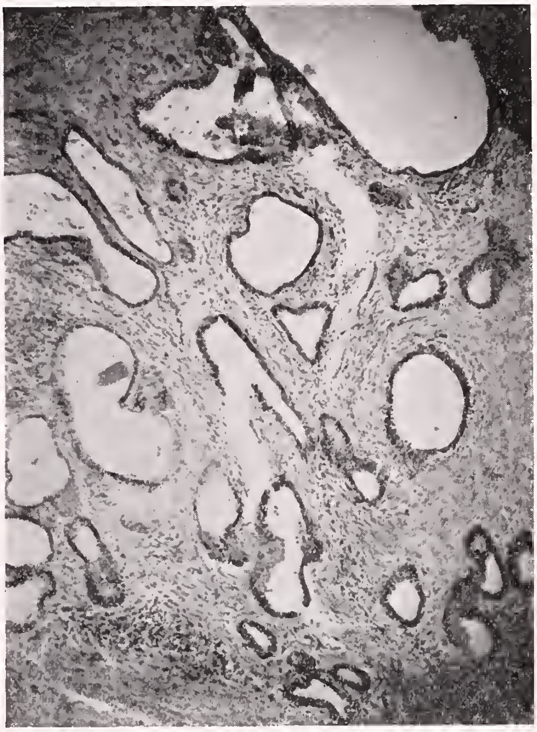

Fig. II—Photomicrograph of tumor removed from the abdominal wall.

This surgical relief suggested the possibility of embryonic transplants of endometrial tissue in the uterine wall which had caused painful menstruations. Examination of the wall of the uterus near the area where the silk suture was found, showed adenomatous tissue of quite likely endometrial origin. The following question naturally arises. Did the transplant in the abdominal wall come from the normal uterine mucosa or from previously transplanted endometrial tissue in the uterine wall?

REFLECTIONS ON THE YEAR'S WORK*

FRANK M. CONLIN, M.D.,
Retiring President Omaha-Douglas County Medical Society,
Omaha, Nebraska.

It is customary at the closing meeting of each year for the president to consider the work that has been done during his term of office and to give suggestions that may be carried out in the future for the betterment of the Society.

This is the first full year that we have spent in this, our new home—the Medical Arts Auditorium—which, as you know, was donated to us by the Medical Arts Building corporation. They have done everything possible to make us comfortable and have co-operated in every way to make our meetings both pleasant and profitable, and I want to take this opportunity to publicly thank them for that cooperation. We now have a home of our own and we have attempted to decorate it in a suitable way. We have adorned the walls with the pictures of men who have in the past been prominently identified with this Society and to whom we owe a great deal for the influential place the society holds in this community.

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*Talk before Omaha-Douglas County Medical Society, December 13, 1927.

History tends to make us humble, and when we consider the history of the Omaha-Douglas County Medical Society and the splendid zeal that prompted the members who have gone before, we should be doubly appreciative of our wonderful opportunities.

PROGRAM

During the past year an attempt has been made to bring as many prominent teachers from the outside as possible, to give papers before the society. An attempt has been made to interest all of the profession of Omaha in the society and the program committee has worked unceasingly to present papers by men whose opinion is worth while. They feel that one should be honored to be asked to appear before this group. The essayists have appreciated this honor and have spent much time and thought in the preparation of their material. The excellence of the programs is evidenced by the increasingly large number of doctors coming in from many of the small communities within a radius of seventy-five miles from Omaha.

EDUCATION OF PUBLIC

The Committee on Municipal Affairs has worked diligently to bring before the public matters of community health interest and with every number of Omaha's Own Magazine an article has been prepared by some member of this association, edited by the committee, and published. They have attempted to take the public into their confidence and show them the advance of scientific medicine regarding the cause of disease, the method of transmission and the most effective methods of prevention. They have attempted to convince the public of the sincerity of the medical profession in their endeavor to prevent disease and reduce mortality.

Education of the public is one of the duties of the medical profession today, and your Municipal Affairs committee has worked admirably during the past year. The diphtheria prevention campaign, sponsored by the health department and backed by the medical society, is familiar to all of you.

COUNTY HOSPITAL PROBLEM

Last spring the county commissioners brought to the Municipal Affairs Committee a plan for the construction of a county hospital. This plan was considered by the Committee, was shown to the medical society on June 7th, and was adopted unanimously. The county commissioners, through their spokesman, Commissioner Falconer, at that time asked the cooperation of the medical society in convincing the public of the great need for an institution to care for the sick poor of this community, so that should a bond issue come to a vote they could vote intelligently upon it. The Committee on Municipal Affairs has worked unceasingly on this project, and judging from the favorable reports received from members of the Municipal Affairs Committee of the Chamber of Commerce, the county commissioners, and the various noon day clubs and improvement associations, the public is becoming aroused to this great need. A hospital thoughtfully planned with complete equipment may become a reality in the near future.

I ask your continued support of your Committee on Municipal Affairs. It has failed in times past because the support has not been continued and the public has not been completely sold. It is my belief that if the 391 members of the Omaha-Douglas County Medical Society will each constitute himself a committee of one to sell this idea to every voter he comes in contact with, the dream of the medical profession of Omaha will soon be realized.

If bonds for a new county hospital are to be voted upon at the fall election, 26,000 votes will be necessary to carry them. Nurses working in hospitals and homes can help educate people on this problem. Medical students can explain the plan to people with whom they come in contact. Also the Women's Auxiliary can aid us greatly in carrying on this work.

Omaha, twenty years ago, was known as the medical center of the West, but since that time has gradually seemed to lose that position. Recently, however, with the elevation of the standards of all of Omaha's hospitals, with the building up of our two great medical schools, and the centralizing of the medical effort of this community we have dared to hope that Omaha might again regain her old reputation as a medical center. This organization, the Omaha-Douglas County Medical Society, will, I believe, have more and more to do with bringing this about. The Medical Society will become as time goes on more of a post-graduate teaching institution.

CLINICAL FACILITIES

Omaha is a city of 225,000 people; it is the metropolis of the state of Nebraska; has two class "A" medical schools, and twenty large well equipped and well functioning hospitals. It is a medical educational center. It should be a post-graduate center for the medical men of this and surrounding states. In times past visiting doctors have passed through Omaha to St. Louis, Kansas City, Chicago, Rochester, and other places in order to see work that is being done just as well here. They passed Omaha because they found it difficult to find where the work was being done, when it was being done, and who was doing it.

We hope now to greatly improve this situation. The Medical Arts Building Corporation has given free to the Medical Society a room in the top floor of this building and unanimously voted to furnish this as an executive office for the Omaha-Douglas County Medical Society. The officers and your committee have been working to furnish this, and today many of you have inspected these quarters. Miss Sprecher, whom many of you know, is to be the acting assistant secretary in charge of this office. We plan to have reports of all operations, all clinics, all demonstrations in Omaha posted so that any physician may inquire in person or over the telephone and find out what is being done in Omaha during the time he is visiting here.

Cards will be sent doctors all over the state of Nebraska and Western Iowa giving the location and telephone number of this office. They are invited to make use of its facilities as a rest room, a meeting place, and a center of medical information. I feel certain that the establishment of this Executive Office is one of the most important moves that the Omaha-Douglas County Medical Society has made in many years.

BULLETIN

It has long been felt that the postcard announcing the date of the meeting and the program was not only insufficient but much beneath the dignity of an organization such as this. We have recently planned a bulletin which is to contain the program and in some instances a short synopsis of the papers to be delivered, with a brief history of the speaker and his qualifications. We expect to devote a certain portion of the Bulletin to the two medical colleges, to the hospitals of this city and county, to the Women's Auxiliary of the Medical Society, to Health Department notes, articles of interest to the profession appearing in lay periodicals and newspapers, and a short personal column devoted to the activities of the members of this society. We believe that this bulletin will fill a long felt want. It is already more than self supporting.

These are among the things that have been taken up in the past year; there is still much work to be done. I shall only briefly name a few of the problems the profession is continually meeting and problems the medical society should consider and act upon:

I. MALPRACTICE SUITS

There seems to be an ever increasing number of malpractice suits brought against members of the profession, nine out of ten in all probability without justification and most of which are never even considered by a court of justice. These suits, nevertheless, cause a great mental strain and loss of time and money upon the members of the profession. I have hardly ever known a malpractice suit that was justified. They are a result of vindictive patients, grasping lawyers, and doctors who want to satisfy a grudge or jealousy. (Pussey, A. M. A. Bulletin). Any member of our Society may be sued at any time and I feel that it is time that the society did more than just contribute to the medical defense fund of the state society. We should show the public that we are organized; that they cannot bring charges against one of our profession and damage him not only financially but physically and mentally as well, without doing the same damage to every member of the society. A malpractice suit is not one man's fight; it is our fight and we should present a solid front of opposition. I would like to see a committee appointed by the society to whom every man might report immediately threats of a suit, so that assistance could be given him in every way possible. As I said before, most of these cases are brought by disgruntled patients who do not want to pay for services rendered, and in most instances the same threat has been held over other medical men of the community so that charges would be cancelled. If every member of this Society knew of every malpractice suit that was filed, who is bringing the charges, and the public could be shown that the medical society is organized to exert their collective influence to protect itself against these parasites the number of these suits would be reduced to a minimum.

2. ECONOMIC STATUS OF THE PHYSICIAN

A recent article with head lines, called attention to the fact that the medical and dental professions are known to the credit rating agencies as poor credit risks. Scribner's Magazine for March, 1927, contains an article on "Must We Send Our Doctors to the Alms House?" Harpers of November, 1927, has an article on "What Price Doctors". One of the greatest misconceptions of the public is that the practice of medicine is a highly profitable vocation. They do not realize that many factors contribute to make the practice of medicine most unprofitable. Perhaps the greatest factor is the large free list. So many free dispensaries have been opened within recent years that as Doctor Damrau says, the average person feels that "Where poverity is bliss, it were foolish to be rich". The report of the American Medical Association shows that there were four thousand free dispensaries in the United States in 1922. Eight millions of patients were treated in these dispensaries during that year. A total of approximately 29,500,000 visits were made, and assuming that each visit would call for an average charge of two dollars the value of this service during the one year amounted to the staggering sum of fifty-nine millions of dollars. The American Medical Association states that there are 150,000 physicians in the United States. A large number of those are out of practice or internes in hospitals so probably 120,000 would be closer to the figure. This indicates that the average annual loss to each individual doctor as a result of this charity service is close to five hundred dollars. The total population of the United States is one hundred ten million. It is difficult to believe that there are eight million people so poor that they cannot afford to pay the minimum medical fee.

The average physician collects only sixty per cent of what he earns. Dr. Damrau well asks: How can any business or profession be profitable if forty per cent of its assets are dead accounts. Dr. Edward Hamilton of Oak Hill, West Virginia, estimates that the average income of the American Doctor during 1919 was $1200. It is reasonable to assume that the same figure would hold true today. The public is imposing upon a profession when it asks him to scratch forty per cent of his earnings off his books and to contribute four hundred dollars more annually to the cause of free dispensary service.

No one knows how many doctors end their lives in the poor house, according to Dr. Damrau, but many will be found in the charitable institutions of a large city and there are many others who contract what he calls financial anemia and never recover. No figures are available on the subject of poverty among doctors for any physician hesitates to make the admission, but every phpsicians knows there is a large number of them on the verge of outspoken poverty. The cause of this condition is to be found in the idealism of the profession, for medical men are the most liberal philanthropists in the world.

Many of you are as tired as I am of hearing the average business man of today say in a slighting way, "Oh, the doctor is a poor business man". You are tired of letting the public continue to believe that there is some mysterious source of revenue the doctor has that pays him liberally so that Mr. Public does not hesitate to call the doctor first and pay him last. The physician's economic situation always has been good and with the present facilities for communication it ought to become progressively better. Combined with this improvement there is the fact that as a result of marked advance in medicine he can render more valuable service than ever before. Why then should such statements be made? In my mind the reason is first, increased free lists due to dispensaries and social agencies, and second, dead beat patients.

Two per cent of the population of the United State are at all times so ill as to require medical services of some kind or another. The best estimate of the aggregate cost of sickness in the United States is two billions of dollars a year, the same amount that is paid for public education, or three and one-half per cent of the public income. The Bureau of Labor statistics of the United States Government in a study of twelve thousand wage earners found that the average total medical expense per family was a little over sixty dollars per year. It has been found that in a community one out of every four families will have at least one serious illness in the course of a year. Dr. Sage has shown you the amount of free medical service contributed by the physicians and hospitals of Omaha. No one will seriously question the fact that the poor should receive proper medical care and treatment but the question I am bringing before you tonight is: Does this obligation for this amount of service rest upon the medical profession consisting of four hundred fifty members of this community of 225,000 people, or does it fall squarely upon the shoulders of the entire community?

"Never before has the medical profession been more efficient, scientific, or idealistic in its aims than it is today. Nevertheless its reward from the public for this laudable trentd is nothing better than general distrust, forty per cent of unpaid bills and wholesale derelictions to ignorant quacks. The doctor has spoiled the public." (Damrau).

The meager income of the average physician is a matter that should concern the public, but it should also concern the doctor himself. It is time that we should set our house in order, that we should resent being called poor business men and should insist that "the laborer is worthy of his hire". Many of you have had the experience that I have had many times, of caring for patients through long illnesses to find that on their recovery I could not collect my bill and then later find that several of my colleagues had taken care of these same patients with the same result. Many of you have been called into homes where you found pianos, victrolas, radios, automobiles and other luxuries and you have been beat out of your just fee—the doctor is first called and last paid, and I am reminded of a little card posted in the office of our old family physician back in Wisconsin that goes as follows:

> God and the Doctor we alike adore,
> Just on the brink of danger, not before,
> The danger over, both alike requited,
> God is forgotten and the Doctor slighted.

"A very important factor in lowering the physician's prestige is the deliberate cheapening of his services by the universal trend toward free medical attention. Whatever is free is not appreciated. Water is free but who ever thought of thanking the engineering and public health authorities for conveying it to our spigots?"—Damrau.

This is a problem that I believe should be brought out into the open and met intelligently and fairly. We should not go on quietly as we have in the past being imposed upon by this class of patients. No one will seriously question the fact that the poor should have proper medical care but I believe we should investigate more carefully to find those deserving of this charitable service. We have a moral responsibility to do our part in preventing rascals from reaping rewards from their rascality. I believe that this society should organize a credit rating bureau of its own or under the management of some one in whom they have confidence, that would give credit information to the members of this organization, so that those who buy radios, automobiles and these other luxuries we have already mentioned should be compelled to pay their physician. This credit agency cannot work with the already existing credit bureaus for we have been told repeatedly by these organizations that many people who will pay their butcher and their baker and the dry goods merchant will not pay the doctor, and a Class A rating by the Omaha Retail Credit Men's Association does not hold good as far as the physician is concerned. I believe that this organization could be perfected; it would require the cooperation of every member, but the service that would be rendered would rebound to the credit of every member of this society. I would respectfully request that you give serious consideration to this recommendation.

ATTENDANCE AT MEETINGS

The attendance of the Medical Society during the past year has been exceptionally good, the average per meeting being 115. There are 360 members of the society, however, and I believe this average should be brought up. One thing that is hindering the society is the number of staff meetings that have the compulsory attendance rule of the American College of Surgeons. Both the College of Surgeons and the American Medical Association are considering this problem and may work out a solution. It is not my conception of the program of the American College of Surgeons that staff meetings should replace the Medical Society meetings but that hospital staff meetings should be only a consideration of deaths occurring in the hospital, infections, complications and so forth and that the program should consist of a consideration of these matters plus case reports.

I should like to see more of the younger men of the Medical Society take part not only in the conduct of the Medical Society as an organization, but in its programs as well. I should like to see a prize offered by the society or some of its members for the best papers presented by its younger members. A thought that I would like to leave with some of the older and wealthier of our colleagues an endowment in commemoration of their membership. An endowment of a thousand dollars for surgery, medicine or one of the specialties would draw sixty dollars interest and would pay most of the expense of bringing a nationally known man to this society each year.

Some of the suggestions outlined cannot be accomplished within a year. I should like to see the society outline a five or ten year program for its improvement and upbuilding.

HOW MUCH FRESH AIR DOES SCHOOL CHILD NEED?

Thomas J. Duffield, New York (*Journal A. M. A.*, April 21, 1928), says that one of the functions of any system of heating is to heat air entering the room by infiltration and to compensate for heat losses through walls and ceilings and around doors and windows. In other words, the attempt is made to establish conditions that would exist if the rooms were a calorimeter—that is, to establish equilibrium between the heat lost and that supplied. It remains, then, for any system of school ventilation to provide sufficient fresh air at such temperature as will offset the effective heat output of the pupils and maintain the temperature of the classroom within a narrow range of the point found to be the most healthful for the pupils. If the modern conception of the desiderata in school ventilation is correct, the practice of always supplying 30 cubic feet of air (fresh or recirculated) for each child per minute appears not only unnecessary but wasteful.

JAZZ UP!

It was a deathbed scene, and the director was not satisfied with the hero's acting.

"Come on," he cried, "put more life in your dying!"—Louisville Satyr.

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ROSTER OF OFFICERS

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Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

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Dr. W. J. Douglas, Atkinson	1928
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Dr. H. E. Potter, Fairbury	1928
Dr. A. P. Overgaard, Omaha, Secretary	1930
Dr. H. J. Lehnhoff, Lincoln	1930
Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

Dr. A. S. v. Mansfelde, Ashland, Honorary Chairman	
Dr. Roy W. Fouts, Omaha, Chairman	1929
Dr. C. A. Hull, Omaha	1928
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

THE HASTINGS MEETING

The best balanced program in many a year featured the annual meeting held at Hastings, May 15-17. Interest centered in all the papers presented from the very first on the program to the end. Every essayist was in attendance—the first time in the history of the society—and the discussions were as liberal as time allowed. The guests of honor were well placed on the program and intense interest centered in their presentations. Dean Lewis, professor of Surgery, John Hopkins Medical School, spoke on "Fractures and Their Complications"; Gilbert J. Thomas, professor of Urology, University of Minnesota, discussed "Infections of the Urinary Tract"; E. C. Rosenow of the Mayo Clinic talked on "Serology", and Wilbur E. Post, professor of Medicine at the University of Chicago, spoke on "Some Phases of Nephritis". The discussions offered by these masters were a rare treat. Three discussions presented were on medical economic problems: Dean H. v W. Schulte, of Creighton University College of Medicine, spoke on "Medicine of the Middle Classes"; Dean J. J. Keegan of the University of Nebraska College of Medicin, featured the "Preceptor Method in Medical Education", and Dr. E. R. Hays, Falls City, chairman of the public activities committee, presented a tentative program of public activities with much earnestness.

The President's Address, given at the banquet attended by over three hundred medical men and their wives, was an able presentation of "Commercialism and Medicine".

Public Health Week was observed in Hastings—the program arranged by the chairman of the public activities committee. Speakers presented medical and public health problems to every organization in Hastings during the week.

The profession of Hastings had offered to show those of us who doubted the ability of the third city to entertain the convention—and they did, much to their credit. It was noticeable that there were many closer contacts and greater sociability shown in Hastings than are usual in metropolitan places— propinquity being the determining factor.

The registration reached 315, which is good for any city, although from fifty to seventy-five short of the probable number that would have registered in Omaha or Lincoln.

The next meeting will be held in Omaha.

Officers elected: President, F. S. Owen, Omaha; Vice Presidents, E. L. Brush, Norfolk, W. R. Boyer, Pawnee City; Delegate to the A. M. A., R. W. Fouts, Omaha; Councilors, Morris Nielsen, Blair, Fifth district; Frank Tornholm, Wahoo, Sixth; H. E. Potter, Fairbury, Seventh; W. J. Douglas, Atkinson, Eighth; W. O. Bridges, Omaha, Committee on Journal and Publication; H. v W. Schulte, Omaha, and J. S. Welch, Lincoln, Public Activities Committee.

MALTA FEVER, UNDULANT FEVER, ETC.

Cases of malta fever or undulant fever have been reported during the past winter from Iowa and at least one case is reported from Nebraska. (See Journal, May, 1928, p. 173). It is also called Mediterranean fever, having been first described from that region; Gibraltar fever, Neapolitan fever; Bruce's septicemia; goat fever; rock fever, etc. It is a fever of bacterial origin due to the *Micrococcus melitensis,* first isolated by Bruce in 1893.

The fever is characterized by its long undulatory course, early arthritic symptoms, sweats and increasing anemia.

The goat is the natural host of the organism, but it is also found in ewes, cows, asses, horses and monkeys. The infected animals appear to suffer no inconvenience whatever from the presence of the germ. The disease is conveyed to man by goats and especially by their milk, for it is prevalent in exactly those regions where goat's milk is a common article of diet.

Its transmission to man is through the alimentary canal and is a true septicemia.

The period of incubation is from ten to fourteen days. The onset is characterized by chills, malaise, cephalalgia, anorexia, muscular pains, insomnia and depression.

The fever which ranges from 103 to 105 degrees persists for about two weeks, then declines to normal by lysis in about two weeks, only to rise again after a few days. This process may be repeated for a whole year or indefinitely, with variations of temperature, the temperature rarely reaching the original high point during the recrudescences. The average duration is three months.

There is no specific for undulant fever although quinine in massive doses, thymol, calomel and other drugs have been vaunted by some observers.

THE CANCER PROBLEM

The American Society for the Control of Cancer held its annual meeting in New York City, March 3. It was a notable gathering at the Biltmore Hotel where a symposium was presented on the subject of "The Function of the Health Departments in the Control of Cancer". The speakers were Dr. Henry F. Vaughan, Health Commissioner of the City of Detroit; Dr. Jonathan M. Wainwright, Chairman of the Pennsylvania Cancer Commission; Dr. G. W. Biglow, Commissioner of Health of the State of Massachusetts; Dr. L. I. Harris, Commissioner of Health of the City of New York; Dr. T. B. Appil, Commissioner of Health of the State of Pennsylvania; Professor James Ewing, Pathologist of Columbia University; Dr. George A. Soper, Director of the American Society for the Control of Cancer; and Dr. Howard C. Taylor, President of the American Society for the Control of Cancer, presiding. This symposium marked the beginning of cooperative efforts between the American Society for the Control of Cancer and Public Health officials. Such a movement should be far-reaching and should not fail to advance the cause of control of cancer.

The forenoon was profitably spent in the Crocker Institute of Cancer Research. There Dr. Francis Carter Wood, Director of the Institute, gave a most instructive demonstration of the work carried on in this institution. Following are some of the observations made by Dr. Wood. He began with a recital of the observations made in St. Luke's Hospital of New York City—a hospital in which the patients average of a higher intellectual order than are to be found in most institutions. And yet only 22 per cent of all cancer cases applying to this institution were listed as "curable" and of this number about half showed recurrences by the end of two years following treatment. This left but 11 per cent free of recurrences at the end of two years. Six per cent of the cases were in such an advanced stage that they were refused admission because there could be nothing done to stay the progress of the disease. Surgery, x-rays and radium constituted the armamentarium and the best talent of New York City was available. This deplorable showing bears witness to the necessity for a far-reaching and persistent system of education to the end that patients will apply for aid in the early stages of the disease or better still in the precancerous stages. The old adage—"Prevention is better than cure" applies with added force to the cancer problem.

Of cancer of the lip we were told it was on the decrease because the short stem clay pipe has been largely abandoned. In Ireland there is no such decrease in cancer of the lip because the clay pipe is still generally in use. We are now hearing of the cigaret cancer and it would not be surprising if the future women may present cancer of the lip in greater numbers.

It was remarked that women are getting better results from the treatment of cancer than are men. This is due not alone to the fact that cancers of the uterus and breast are more accessable to treatment than are the deeper-seated cancers, but it is found that women are more responsive to educational efforts. In other words, women are more likely to follow the admonitions of the physicians and such organizations as the American Society for the Control of Cancer, to have periodic medical examinations and to seek the services of a competent physician when suspicious of a cancerous growth.

The research work of the Crocker Institute is not confined to the etiology of cancer. Here they are endeavoring to find a cure as well as a cause. No possessor of a "sure cure for cancer" is denied a hearing, but it is expressly stated that the Institute, after thorough investigation, reserves the right to publish the results of its investigations. Such a liberal attitude on the part of the Institute is wise, for who can foretell from what source the solution of the problem may come?

Cancer has been known for 3000 or 4000 years; it has been found in the mummies of Egypt. Cauterizing agencies were used then as they are now by the modern quack. Scientific research began with the discovery that cancer is not confined to the human race, but is found in all animal life. When it was learned that white mice and white rats were particularly susceptible to cancer, an abundance of cheap material for investigation was forthcoming. Ten thousand white rats are in the Crocker Institute and their genealogy is carefully recorded as an aid to the study of heredity and susceptibility to cancer. That there is great variation in susceptibility to cancer in rats is clearly in evidence and while cancer is not directly inherited, there is no doubt that the factor of susceptibility exists and is passed on to future generations. Seventeen varieties of cancer are observed in rats due to a single form of irritation. A transplanted cancer preserves its characteristics from generation to generation. We were shown benign fibrous tumors in the rat that had existed more than a year with no harm to the host and were told that cancer cells have been inoculated into the substance of these tumors and have remained indefinitely in a latent state but when these latent cells are transplanted into a healthy rat, they take on rapid growth and ultimately destroy their host. This observation led to a discussion of the effect of the x-rays upon lymph channels. Sections were shown in which the lymph spaces were not altered through the influence of the x-rays. There was, however, obliteration of the blood vessels with more or less degeneration of the cancer cells. Microscopic sections were shown of cancer tissue which showed the effects of the Blair Bell lead treatment. Blood vessels were thrombosed and in the thrombi were lead deposits. There were marked degenerative changes in the cancer cells. With such degenerative changes it was observed that it required less quantities of x-rays to complete the destruction of the cancer. Here again we were reminded of the fact that there is a wide variation in response to treatment; some cancers responding promptly, some not at all to this and other forms of treatment. There can be no standardized treatment for cancer—each case seems to be a law unto itself.

Dr. Wood deplores the prevailing prejudice against biopsy wherein it interferes with the employment of needed diagnostic methods, such as exploratory curettage in the diagnosis of cancer of the body of the uterus, excision of a portion of the cervix in doubtful cases and the removal of a lump in the breast for microscopic examination. He sees little danger in the procedure and such as there may be can be obviated by the immediate application of radium, cautery or even carbolic acid.

The parasitic theory of cancer is questioned and the statement was made that "the germ of cancer is the intact cancer cell itself". In support of this contention it has been found that cancer which can be readily inoculated will fail when crushed into a mush. In other words, if the cancer cells are crushed it is not possible to inoculate a white mouse with the disorganized cancer substance. It was emphasized that two things are known to be essential to the development of cancer; first, susceptibility and second, irritation. Interesting experiments have been made with irritating oils and tars. White mice readily acquire cancer by the application of such chemicals, but rats will not. And in this connection, it was stated that negroes have but little cancer of the skin. Knowledge of the action of irritating oils in the production of cancer has reduced the sales of mineral oils. To prove the fallacy of this, Dr. Wood has fed mice and rats with these oils and over a long period of time with no deleterious results. It was of interest to note that they are able to produce metastasis in 20 per cent of cases by gentle massage of the tumors—a warning to the osteopaths.

Dr. Wood has experimented on the effects of the x-rays upon the eggs of flies to determine the effects upon body cells and cancer cells. He has concluded from these experiments that the wave lengths have nothing to do with the results; that it is simply a matter of quantity—not of quality of the rays. Of late there has been a marked increase in the incidence of primary cancer of the lungs and this has been ascribed to the inhalation of tars from our paved streets. But this theory does not satisfy Dr. Wood who ascribes that the same increase has been noted in Russia where there is little exposure of this sort.

At the close of the session Dr. Wood remarked that he did not expect to live to see the discovery of the cause of cancer; that it is possible it will never be discovered and that we will have to breed cancer out of the human race.

—Palmer Findley.

THE NEW HOME OF THE LANCASTER COUNTY MEDICAL SOCIETY

The permanent home of the Lancaster Medical Society was formally opened April 24, 1928, in the new Sharp Building at 13th and N Streets. The quarters consists of an assembly room, lounge, library and museum, covering an area of eight thousand square feet. The floors have been covered with a lovely pattern of linoleum and with beautiful carpets. The walls have been decorated in a pleasing manner. The assembly room is equipped with a large speaker's and officer's platform upon which is a large library table and an upholstered chair for the officers and distinguished guests. For the members, about 150 chairs of a very comfortable pattern have been installed. A platform for the lantern and a screen are present in this assembly room.

The lounge is very comfortable with its massive upholstered furniture. The walls are painted with a special Pompian type and are decorated with three oil paintings. The library is very well equipped, containing a librarian's desk, three large reading tables and artistic reading lamps for each, and steel adjustable shelving sufficient for 15,000 volumes. At the present time 3,000 volumes are already in place. The museum is equipped in the latest fashion for the examination and preservation of pathological specimens. Many other small features too numerous to mention have been installed for the comfort and entertainment of the members.

The Lancaster County Medical Society believes it has one of the best equipped quarters in the middle west, having installed equipment to the value of $10,000 at the present time. It invites all members of the profession to visit the quarters when stopping in Lincoln.

—K. S. J. Hohlen.

NEBRASKA PUBLIC HEALTH ASSOCIATION

Pursuant to call about fifty persons interested in the formation of a public health association met in Lincoln, May 14, and organized the Nebraska Public Health Association. The object of the association is to protect and promote public health by the closer correlation of all health activities, fostering and supporting constructive legislation and aiding in the dissemination of correct information with regard to public health.

This movement should be supported by all high minded professional and lay people.

Any person interested in the movement may aid the cause by obtaining membership at the nominal cost of one dollar.

The officers of the association are Dr. W. H. Wilson, Lincoln, president; F. B. O'Connell, Lincoln, J. H. Beveridge, Omaha, Miss Catharine Justesen, Neligh, Mrs. Edna C. Anderson, York, Dr. Rachel Long, Holdrege, Dr. F. W. Plehn, Scottsbluff, vice presidents; H. P. Letton, Lincoln, is secretary-treasurer.

WESTERN ASSOCIATION OF PHYSICAL THERAPY

The Tenth Annual Meeting of this Association was held at Hotel President, Kansas City, Mo., April 20 and 21, under the presidency of Dr. J. E. G. Waddington of Detroit. An interesting program of twenty-five papers held the interest of the large number of physicians in attendance. The guests at the annual dinner included: Drs. W. B. Snow, Mary Arnold Snow, New York; Frank Walke, Shreveport, President-elect American Congress of Physical Therapy; Kerwin W. Kinard, President Jackson County Medical Society; James T. Case, Battle Creek; Henry Schmidt, A. R. Hollender, Disraeli Kobak, Chicago; Roy W. Fouts, A. F. Tyler, Omaha, and Richard L. Sutton, Kansas City, who presented a most interesting lantern talk on "Africa and the Big Game."

The following officers were elected for the ensuing year:

President—E. N. Kime, M. D., Indianapolis, Ind.

Vice-President—A. F. Tyler, M. D., Omaha, Nebr.

Secretary—Charles Wood Fassett, M. D., Kansas City, Mo.

RETROPERITONEAL LUMBAR (PARANEPHRIC) ABSCESS

Alfred Brown, Omaha (*Journal A. M. A.*, March 3, 1928), reports two cases of retroperitoneal lumbar (paranephric) abscess resulting from muscle strain after lifting a heavy object. Brown points out that traumatic abscess of the back, in common with the abscess occurring as an extension from tuberculosis of the spine and that resulting from the perforation of a retroperitoneally situated appendix, occurs in a definite anatomic area which contains fatty tissue that has been designated the paranephric body. This fatty tissue is distinctly separated from the true fatty capsule of the kidney both by its chemical makeup and by reason of the fact that a layer of fascia is present between the two. An abscess, irrespective of its etiology, occurring in this tissue might more properly be called a paranephric abscess, the name of perinephritic abscess being reserved for that involving the true fatty capsule of the kidney and in direct relationship with the kidney itself. The operative approach to this type of abscess through a low lumbar incision is more direct and affords better drainage, while at the same time it avoids injury to the kidney and its capsule, which may take place if one or the other of the usual types of kidney incision is employed.

EDITORIAL PARAGRAPHS

The first authentic dental operations are said to have been performed by the Egyptians, 5500 B. C.

Remember the meeting of the American Association for the Study of Goiter at Denver, June 18-20.

The editor's observation of a lifetime is that successful physicians are continually criticized by jealous rivals.

Fifteen species of rattlesnakes are found in the United States of which the *Crotalus confluentus* is the one common to Nebraska.

The State Medical Association of Texas gave the Women's Auxiliary a place on the health program at the annual meeting in May.

Better Health for Nebraska, a University of Nebraska bulletin on our desk, features the work of the colleges of Medicine, Dentistry and Pharmacy.

It appears that "B. J.", the father of Chiropractic, has developed an inferiority complex if one may judge by the report of his speech in Philadelphia.

Without condemning cod liver oil as a remedy and nutritive, it may be confidently asserted that its virtues have been much overworked in the medical press.

The American Legion has honored itself by honoring Dr. Harold Gifford as Omaha's Leading Citizen. Doctor Gifford has many philanthropies to his credit.

It is thought that within a few months it will be definitely determined how fully substitutes for insulin to be taken by mouth will take the place of insulin as now administered.

It is now believed that the mound builders of the Great Central Plains were not a prehistoric race, but the forefathers of the same Indians found in the region when discovered.

It is said that Insulin rapidly corrects the acidosis of alimentary intoxication and acetonemic vomiting in children, in hyperemesis gravadarum, in eclampsia, in post operative acidosis, etc.

Irradiated ergosterol is a new remedy for rickets, one ounce of which it is said will do the work of six tons of cod liver oil. Hess of New York reports that two to four milligrams daily will cure rickets in babies.

Pennsylvania reported but 19 cases of small pox for 1927, although the total reported in thirty-seven states for 28,608. Vaccination of school children is compulsory in Pennsylvania and this is the answer to the small morbidity.

Magna Charta Day, "the Interdependence Day of the seven English speaking nations", is to be celebrated June 15th. Great Britain and Ireland, Canada, Newfoundland, Australia, South Africa, New Zealand and the United States are referred to.

The article "Why Do We Have Country Doctors ", published in last month's Journal, page 185, anonymously, should have been credited to Dr. A. E. Cook, Randolph, councilor for the Fourth District. We apologize for the omission.

Sixty-three per cent of children in a series treated with goat serum were successfully protected against measles. Goats were immunized by means of the coccus believed to be the cause of measles and the serum derived used in the experiment.

Recent experiments seem to point to sodium nitrite as the remedy for seasickness, according to Pearcy and Hayden. The theory of the causation of seasickness is that it is due to overstimulation of the vestibule and the remedy lies in the depressant effect of the nitrite.

Dr. E. S. London, director of the physiological division of the Institute of Experimental Medicine, Leningrad, spoke before the Omaha-Douglas County Medical Society, May 8, and also before the Lancaster County Medical Society, May 9, on a new technique of blood vessel surgery.

Cornell states that pernicious anemia is more common in Northern Europe, British Isles and North America than elsewhere. It is uncommon in Brazil, unknown in China; Jews are rarely affected and Negroes practically never. It is many times more prevalent in Ontario than anywhere else. This suggests diet and geological structure as it affects drinking water, as possible causative factors.

In the face of the fact that a committee of the American Medical Association, headed by Dr. George H. Simmons, reported that there was not great need for a home for aged and indigent physicians, those interested in the Physicians' Home movement are going to bring the matter again to the attention of the House of Delegates of the A. M. A., at the Minneapolis meeting. It is intimated that the survey made by the Simmons committee was not adequate.

The Lancaster County (Lincoln) Medical Society's club rooms, occupying all of the sixteenth floor of the Sharp building, were formally opened April 25, with a banquet attended by about seventy physicians and their wives. Over eight thousand dollars was spent in furnishing the rooms. A library and pathological museum are also provided for. Three thousand books are already on the shelves and twelve thousand are expected to be installed within a few months. This society dates its origin back to 1880.

At last a kick has come against the Journal—and the editor feels encouraged. Heretofore there was no way of telling whether anybody read the Journal or not. This correspondent found a letter published in the Journal by a rival surgeon and he jumps on the Journal to call the communication "rank advertising". He also says he never did care for the Journal. Let the editor repeat: If the Journal is not as good as you think it ought to be, you must help make it better.

The "corn fed" physicians of Nebraska, old and young, will marvel at the following supposed information from a recent work on Diet: "Bacon is the subcutaneous fat, especially of the hind quarters of the pig and it is cut in flat slices and packed in salt, or salted and smoked. In some kinds of bacon, thin layers of meat are included. If eaten in a raw state it requires strong organs to digest it. It is much more readily digestible if cooked." Those of us who were raised on bacon will enjoy this bit of enlightenment!

A physician correspondent in the seventh decade of life, writes as follows: "I realize that these younger men have a much better education, both literary and medical, than we older men ever had a chance to get, but I do feel, that along clinical and practical lines we might be able to give them a few pointers. The very first lesson we learned when we started in practice was self reliance. When a case came we had to handle it most always by ourselves, whether it was medical or surgical. If it was a fracture case we did not have the x-ray to tell us where and what the fracture was, but had to depend upon sight, touch and measurements for our knowledge of the case; and, Doctor, I do not see many more people past forty years of age walking around with deformities, than could be pointed out among the younger generation. So I guess we did not do so badly after all".

AUXILIARY NOTES

The Woman's Auxiliary to the Nebraska State Medical Association closed its third annual meeting at Hastings, May 17, after a three day session of business and social entertainment.

The local committee in charge of the affairs was headed by Mrs. L. F. Egan, assisted by the following ladies: Mrs. E. C. Foote, E. B. Hamel, W. G. White, J. V. Beghtol, C. R. Spicer and C. B. Calbreath.

The formal opening of activities was a reception at the home of Doctor and Mrs. E. C. Foote. The afternoon was spent informally. Many of the seventy-five ladies in attendance gathered in little groups to renew friendships; others played bridge.

In the evening the members of the medical Association and the Auxiliary were entertained at Ingleside. In the receiving line were Doctor and Mrs. W. G. White and members of the staff. A most enjoyable evening was given over to a program consisting of a motion picture, the Bee Ruth entertainers and the Ingleside orchestra, which was especially enjoyed by the guests. The later hours were spent dancing.

The second day of the program opened with a business meeting at the Hotel Clark. Mrs. George Walker, Lincoln, presiding.

An interesting account of the Chicago meeting was presented by Mrs. F. A. Long, Madison, 3rd national vice-president. Mrs. C. A. Rubendall, Omaha, Chairman of the nominating committee for the state officers who will take office in January 1929, presented the following nominations which were unanimously accepted: President, Mrs. S. A. Preston, Fremont; Vice Pres., Mrs. G. E. Neuhaus, Omaha; Treasurer, Mrs. G. B. Dent, North Platte. Two directors to serve for two years: Mrs. Fredrick Teal, Lincoln, Mrs. Morris Nielson, Blair. The other officers will be appointed by the President.

Following the business meeting was the Auxiliary luncheon at the Hastings Woman's club. Dr. B. F. Bailey of Lincoln, was the speaker. Mrs. C. A. Rubendall gave a short paper on the purpose of the Auxiliary. A musical program was given by Mr. and Mrs. Hayes M. Fahr of Hastings college.

The annual banquet for doctors and their wives and members of the Auxiliary was held at the Hotel Clarke with the Ingleside Orchestra and Bee Ruth Entertainers on the program.

The three day program was brought to a close by a sightseeing trip about the city which can rightfully be called "The Pivot of America."

Now that our meeting for 1928 is over, those who attended cannot help but realize the value of such an organization and those who were not there can hardly imagine what they have missed, for words can not describe the sincerity of the business meetings and the truly good fellowship of the social gatherings.

May we be inspired by the work of the past and finish this year with flying colors.

Let me express the thanks of the entire Auxiliary to the Hastings ladies who gave so much of their time and energy to make this meeting a success. Also to the officers who served so faithfully.

Lancaster county recently organized a Woman's Auxiliary to the Nebraska State Medical Society, on the evening when the Medical Society club rooms were formally opened, in the new Sharp building. The following ladies will serve as officers for the year:

President—Mrs. B. F. Bailey.
Vice President—Mrs. H. J. Lehnhoff.
Secretary—Mrs W. L. Albin.
Treasurer—Mrs. J. M. Woodward.

The society will begin holding regular meetings in the fall.

Mrs. Aaron S. Speier,
Publicity Chairman

BASIC SCIENCE BOARD MEETING, LINCOLN, NEBRASKA, MARCH 24, 1928.

Present: Drs. VanEs, Thompson, Blake, Sellmeyer and Isacson.

The following resolutions were unanimously passed:

(1) "That until further notice the Basic Science Board of Nebraska may accept and issue a certficate of ability in lieu of a Basic Science examination to any candidate who has passed an examination before a properly legalized board of examiners, in any of the healing arts in any other state, provided that those examinations are of equal standard to similar examinations in the state of Nebraska, as judged by the Basic Science Board."

(2) "That copies of the above resolution be sent to any state or individual from whom applications for reciprocity have been or will be received."

(3) "That application papers for a certificate of ability in the Basic Sciences without examination be turned over to Dr. VanEs and Dr. Isacson, and by them forwarded to the Director of Examining Boards with approval or disapproval."

(4) "That the resolution, of February 14th, regarding the acceptance without a Basic Science examination of candidates who have already taken their junior subject examination, be accepted."

(5) "That contacts in regard to reciprocity with the states already having a Basic Science Law be immediately established, to be followed as early as possible by similar contacts with the rest of the states. The relationship with other states to be based on their acceptance of applicants from Nebraska seeking reciprocity. By previous understanding this work is to fall on the Director of the Bureau of Examining Boards."

Sven Isacson, Secretary.

THE SOCIETIES

Regular meeting of the **Omaha Douglas County Medical Society,** Tuesday evening, April 10, 1928.

A resolution adopted by the Nebraska-Iowa Pediatric Society was submitted to the Council by Dr. Henske, Chairman of a Committee appointed by that Society, and was approved by the Council and referred to the Society for their action. The resolution is as follows:

> WHEREAS the Omaha Douglas County Medical Society sponsored a campaign in the summer of 1927 for the eradication of diphtheria through the immunization of all children by the use of toxin-antitoxin and through the efforts of the Society many children were given the toxin antitoxin, we now desire to follow up this campaign with the cooperation of the Omaha Douglas County Medical Society, State Medical Society and City Health Department, Associated Charities, Visiting Nurses Association, and all lay organizations interested in Public Health. This campaign should primarily educate the public through the medium of pamphlets, etc., similar to those used by New York State Health Department, sponsored by the New York Medical Society.

President Overgaard called on Dr. Floyd Clark, President of the Nebraska-Iowa Pediatric Society to explain the object of the resolution. Carried unanimously.

Dr. Hanish suggested that in this campaign the Medical Society put out a small printed pamphlet, authorized by the Society, which the doctors could enclose to all patients either with his monthly bill or as a separate communication to all he has attended, and in that way avoid the criticism that the doctor was working up business for himself.

Dr. Charles F. Moon made presentation of specimens of Intrauterine Moles. Dr. Earl C. Sage presented a series of lantern slides showing a similar case. This was discussed by Drs. Niehaus and Rix.

Mr. G. W. Hall briefly stated what the Northwestern anticipated offering the doctors in the way of special accommodations and a special train for the A. M. A. in Minneapolis, and a resolution was adopted making the N. W. the official route.

"Foreign Bodies in Respiratory Tract and Oesophagus" was interestingly presented by Dr. John B. Potts, and this was illustrated with numerous lantern slides. The paper was discussed by Drs. Kully, Fouts, Fitzgibbons, Lord and Summers.

Dr. Harrison A. Wigton, spoke on the subject, "Has the Plea of Insanity Been Abused in the Criminal Court." This was discussed by Dr. G. A. Young.

Regular meeting of the **Omaha Douglas County Medical Society,** April 24, 1928.

The meeting was called to order by President Overgaard, who announced that because we had two distinguished speakers from out of town and a long program the business would be dispensed with, and the program would be immediately presented.

Dr. Walter C. Alvarez talked on "Some Recent Advances in Physiology of the Gastro-intestinal Tract. This was illustrated with motion pictures showing the movement of the intestines in animals, and with lantern slides showing work done and giving statistics gathered at the Mayo Clinic.

Dr. Donald C. Balfour talked on Recent Advances in Surgery of the Gastro-intestinal Tract. This talk also was well illustrated with lantern slides.

Dr. Overgaard announced that Dr. Alvarez had other motion pictures of stomachs in motion, which the house promptly called for and after they were shown the meeting adjourned.

There were approximately 300 doctors who attended this meeting, including about 25 outside men.

At the regular meeting of the **Lancaster County Medical Society,** May 1, Dr. T. C. Moyer read a paper on Birth Injuries of the child and Dr. W. C. Becker gave a paper on The Early Diagnosis of Pregnancy. The By-Laws were amended to provide for associate membership of dentists. The last regular meeting of the **Lancaster County Medical Society** was held May 7. Professor E. S. Lowden, director of the physiologic division of the Institute of Experimental Medicine, Leningrad, was the special guest of honor and spoke on a new method of blood vessel surgery, illustrated by lantern slides.

The Thayer County Medical Society celebrated its 25th anniversary at its quarterly meeting, held at Hebron on April 19th. The society was organized April 7, 1903, at Hebron. Two of the charter members are still active members of the society, namely Dr. C. C. Snowden of Davenport, who has been in active practice in Thayer county for 46 years, and Dr. H. H. Stretton of Chester, who has been in the county for more than 30 years. These two members were present as guests of honor. Dr. H. E. Potter, Councilor of the Seventh District, and Dr. A. I. McKinnon of Lincoln, were present as invited guests. After dinner at the Central hotel, Dr. R. F. Decker read the history of the society. Dr. H. J. Newell paid a well deserved tribute to the charter members in his address. Dr. C. C. Snowden related reminiscences of his early practice in Thayer county Dr. H. E. Potter spoke briefly and Dr. A. I. McKinnon closed the program with an address in which he spoke of the county medical society as a most splendid institution for the dissemination of medical knowledge. He urged the members to make good use of their membership by regular attendance and by taking part in the program. 14 physicians were present at the meeting.

—Rudolph F. Decker, Secretary.

The doctors and wives of the **Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Society** held a banquet at Randolph, Neb., April 25th and had as their guests Drs. Adolph Sachs and J. W. Duncan of Omaha.

After the banquet the ladies retired to the home of Dr. Cook and the men enjoyed a very instructive lecture by Dr. Sachs on "Cardiac Irregularities" and "Cardiac Therapy." Dr. Duncan made a few remarks on "Surgery in Angina Pectoris."

Resolutions of condolence on the death of Drs. Q. A. Kerley and E. M. Thies were passed.

—C. L. Philips, Secretary.

The **Twelfth Councilor District Medical Society** met at Scottsbluff, April 19 with fifty doctors in attendance. Talks were given by Dr. A. L. Miller, Kimball, on tuberculosis; Dr. F. B. Young, Gering, on neurological troubles; Dr. P. H. Bartholemew, Lincoln, on contagious disease control.

Dr. A. L. Cooper, Scottsbluff, was elected president and Dr. J. N. Stoops, Scottsbluff, secretary-treasurer.

The **District Medical Society, of Merrick, Hall and Hamilton Counties,** held a banquet at Cuddington Hall Wednesday evening. Around forty were present, and enjoyed talks by Dr. Clyde Roeder, Dr. William Shearer and Dr. Herbert Davis of Omaha.

The organization represents a high type of scientific learning and schooling along the lines of human welfare, and as such directs its energies to scientific research and application of the latest methods to combat mortal disease and accident.

The **Custer County Medical Society** met at Broken Bow May 8. Following is the program: Glaucoma, Henrietta Johnson; Treatment of Pyelitis, T. H. Koefoot; Head Injuries, F. A. Burnham. Those present at the meeting were Drs. F. A. Burnham, Arnold; A. R. Downing, Merna; J. H. Morrow, Merna; L. W. Forney, Mason City; C. D. Spivey, Anselmo; C. L. Mullins, Broken Bow; Theo. Koefoot, Broken Bow; Henrietta Johnson, Broken Bow; B. D. Kantor, Sargent.

The **Fillmore County Medical Society** met at Geneva May 1 and elected Dr. D. C. Stansberry, Geneva, president, and Dr. V. V. Smrha, Milligan, secretary-treasurer. Matters of general interest to the profession were discussed, informally.

HUMAN INTEREST TALES

Dr. J. C. Nielsen has located at Arcadia.

Dr. R. T. Jones has moved from Kearney to North Platte.

Dr. Paul Flotow, formerly of Omaha, has located at Seattle.

The Nebraska Eclectic Medical Society met at Lincoln, May 22 and 23.

Dr. and Mrs. B. B. Davis, Omaha, have returned from a winter cruise.

Dr. Howard Gray, Omaha, has become associated with the Mayo Clinic.

Dr. D. D. Sanderson, Lincoln, spent some time at Excelsior Springs, Mo.

Dr. and Mrs. B. F. Williams, Lincoln, have gone abroad for the summer.

Dr. and Mrs. B. M. Kully, Omaha, have gone to Europe for the summer.

Dr. Margaret B. Stirling has located in Aurora. She came from Burton.

Dr. E. L. Brush, Norfolk, spent a short time at the Chicago clinics this spring.

Dr. Lucien Stark, Norfolk, attended the Mayo Clinic for a ten day period recently.

Dr. John McCoy, Alliance, is a candidate for Congress on the Democratic ticket.

Dr. E. R. Hays, Falls City, spoke at Humboldt on Health of School Children, May 2.

Dr. and Mrs. T. J. Dwyer, Omaha, have been in Phoenix and Los Angeles recently.

Dr. P. C. Mockett of Kimball has returned from a trip to Africa and western Europe.

Dr. J. F. Lukovsky, for a short time located at Schuyler, has located at Springfield.

Dr. Harold Gifford, Omaha, returned late in April from a three months' trip to Africa.

Dr. and Mrs. A. J. Cameron, Herman, have returned from a stay of several months in Florida.

Dr. and Mrs. Edwin G. Davis, Omaha, visited Washington and other eastern points, in April.

It is to be regretted that a Nebraska physician has been arrested for selling liquor to Indians.

Dr. and Mrs. F. D. Burgess, Salina, Kans., visited at Cedar Rapids, their former home, recently.

The marriage of Dr. Carleton B. Pierce, Omaha, and Miss Esther Wood, Detroit, Mich., is announced.

A group of 265 premedical students were entertained at the University of Nebraska College of Medicine, May 4.

Dr. R. O. Griess, Hastings, is doing postgraduate work on eye, ear, nose and throat at Harvard University.

Dr. F. A. Brewster, aviator and surgeon of Holdrege, flew to the Airplane Show at Detroit the latter part of April.

Dr. Robert Schrock, Omaha, went to Europe the latter part of April for a visit of several months at European clinics.

The sympathy of the profession will go out to Dr. A. E. Van Fleet, Omaha, in the loss of his wife the last of April.

Dr. W. F. Novak, Clarkson, has acquired a property which he will remodel into a combined office and emergency hospital.

Dr. J. F. McDonald, of Creighton Medical College, Omaha, took part in a three day national conference at Ann Arbor, in April.

Dr. W. J. Leary, Omaha, who has been in the Philippine public health service for several years has been transferred to Alaska.

Drs. J. E. Summers and A. J. Brown, Omaha, attended the meeting of the American Surgical Association at Washington, D. C., the last week in April.

Dr. E. R. Hays, Falls City, Chairman of the public activities committee of the Nebraska State Medical Association, attended the National Health Conference in Washington recently.

The Nebraska Association of Medical Women held a meeting in Omaha, May 12. Dr. Margaret Koenig gave a paper on "National and Child Hygiene", and Dr. Inez, Philbrick, Lincoln, a paper entitled "Women, Let Us Be Loyal to Women".

NECROLOGY

Albert H. Farnsworth, Grand Island; Harvard University Medical School, 1912; a leading physician at Grand Island for a number of years; member Nebraska State Medical Association; suicided by shooting, April 19, 1928, aged about fifty-three years.

Voorhes Lucas, North Platte; Omaha Medical College, 1895; for many years a practitioner at North Platte, Nebr.; member Nebraska State Medical Association; died March 31 of apoplexy, aged about fifty-eight.

William Hazen, Creighton, Nebr.; licensed by years of practice; for many years a practitioner at Creighton; died May 8, of apoplexy, aged about eighty years.

BOOKS RECEIVED

TRANSACTIONS of the AMERICAN OPHTHALMOLOGICAL Society—Sixty-third Annual Meeting, Quebec, Canada, 1927. Cloth 417 pages. 8 mo. Philadelphia Ophthalmological Society, 1927.

CERTIFIED MILK. Twenty-first Annual Conference of the American Association of Medical Milk Commissions, Inc., and The Certified Milk Producers' Association of America, Inc. Cloth. 8 mo. 322 pages. Washington, D. C. May 16-17, 1927.

STRABISMUS—ITS ETIOLOGY AND TREATMENT, by Oscar Wilkinson, A. M., M. D., D. Sc. Cloth. 215 pages with illustrations. 8 mo. Price $10.00. The C. V. Mosby Company, St. Louis, 1927.

GYNECOLOGY FOR NURSES, by Harry Sturgeon Crossen, M. D., F. A. C. S. Cloth. 276 pages with 365 engravings including one color plate. 8 mo. Price $2.75. The C. V. Mosby Company, St Louis, 1927.

PHYSICAL DIAGNOSIS, by W. D. Rose, M. D. Cloth. 789 pages with three hundred ten illustrations and three color plates. 8 mo. Price $10.00. The C. V. Mosby Company, St. Louis, 1927.

BRAIN AND MIND, by R. J. A. Berry, M. D., F. R. C. S., F. R. S., Edin. Cloth. 10 mo. 586 pages with illustrations. The Macmillan Company, New York, 1928. Price $8.00.

ALUMINUM COMPOUNDS in FOOD, by Ernest Ellsworth Smith, Ph. D., M. D. Cloth. 6 mo. 355 pages. Paul B. Hoeber, Inc. New York, 1928. Price $7.00.

ASTHMA, by William S. Thomas, M. D. Cloth. 8 mo. 257 pages with 20 illustrations in black and white and six in color. Paul B. Hoeber, Inc. New York, 1928.

THE SPRINGTIME of PHYSICK, by Laurance D. Redway, M. D. Cloth. 8 mo. 68 pages. Free Press Printing Company, Burlington, Vt. 1928.

MECHANICS AND CHEMISTRY OF THE HUMAN BODY, by O. Boto Schellberg, New York City. Cloth. 8 mo. 44 pages with illustrations. Price $1.00. Schellberg Institute, Inc., New York City, 1928.

FIRST AID AND MEDICAL SERVICE IN INDUSTRY. Compiled from A SURVEY. Cloth. 8 mo. 134 pages with illustrations. Johnson & Johnson, New Brunswick, N. J. 1928.

THE MEDICAL DEPARTMENT of the U. S. Army in the World War. Vol. IX. Communicable and Other Diseases. Prepared under the direction of Maj. Gen. M. W. Ireland, the Surgeon General by Lieut. Col. Joseph F. Siler, M. C., U. S. Army. Cloth. 8 mo. 607 pages Washington: U. S Government Printing Office 1928.

LINES TO A SKELETON

The accompanying literary gem was discovered lying near a perfect human skeleton in the Museum of the Royal College of Surgery, in London. The author has never been known.

"Behold this ruin! 'Twas a skull
Once of ethereal spirit full.
This narrow cell was Life's retreat;
This space was Thought's mysterious seat.
What beauteous visions filled this spot!
What dreams of pleasure long forgot!
Nor hope, nor joy, nor love, nor fear
Has left one trace of record here.

Beneath this mouldering canopy
Once shone the bright and busy eye:
But start not at the dismal void—
If social love that eye employed,
If with no lawless fire it gleamed,
But through the dews of kindness beamed,
That eye shall be forever bright
When stars and sun are sunk at night.

Within this hollow cavern hung
The ready, swift and tuneful tongue:
If Falsehood's honey it disdained,
And when it could not praise was chained;
If bold in Virtue's cause it spoke,
Yet gentle concord never broke—
This silent tongue shall plead for thee
When Time unveils Eternity!

Say, did these fingers delve the mine,
Or with the envied rubies shine?
To hew a rock, or wear a gem,
Can little now avail to them;
But if the page of Truth they sought,
Or comfort to the mourner brought,
These hands a richer meed shall claim
Than all that wait on Wealth and Fame.

Avails it whether bare or shod
These feet the paths of duty trod?
If from the bowers of ease they fled,
To seek Affliction's humble bed;
If Grandeur's guilty bribe they spurned
And home to Virtue's cot returned—
These feet with angel's wings shall vie,
And tread the palace of the sky!"

SOME BIG LITTLE PESTS

The fly, the louse, mosquito and flea
Are as bad a lot as there can be;
Their manners are bad, their bite is worse;
They carry contagion to man as a curse.

Typhoid and typhus, malaria and plague,
They carry about in a way not vague;
They gather up germs on soles of their feet,
To spread them about wherever they eat.

They do not originate, that's not the plan,
But act as a carrier from man to man;
Protect all the people from pests like these;
Contagion will die—as fear of disease.

—Jour. of Health and Sanit

THE ACUTE ABDOMEN

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THE ACUTE APPENDIX*

A. A. SMITH, M. D.,
Hastings, Nebr.

Definition: Appendicitis, acute, is one of the most important, and the most frequent of all intestinal disorders requiring the attention of the surgeon. It is an inflamation of the mucosa, muscularis and peritoneal coats of the appendix vermiformis progressing in the order named. Typhlites should refer to the changes taken place in the head of the caecum and surrounding peritoneal coverings and to chronic disease of appendicial origin.

Varities: The classification of Dr. Wm. C. MacCarty based on pathological findings, is accepted by most texts—It is as follows:

a. "Appendicitis Catarrhalis Acuta", a condition in which the mucosa is infiltrated, the submucosa congested and the lymph spaces and follicles filled with leucocytes.

b. "Appendicitis Catarrhalis Chronica", a condition following repeated mild attacks of the foregoing and differing from it in the presence of connective tissue, pigment and fewer leucocytes.

c. "Appendicitis Purulenta Necrotica", an advanced stage of appendicitis catarrhalis acuta. In this stage there are formed intermural abscesses, necrosis and even perforation.

d. "Peri-appendicitis Acuta", an extension of the pathological processes to the peritoneal covering of the appendix or to appendix and caecum

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*Read before the annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

e. "Appendicitis Obliterans", a condition in which the lumen of the appendix has become obliterated by repeated mild attacks which have destroyed the mucosa and scar tissue replaces it.

f. There is another condition frequently met by the surgeon and deserving a place in our classification. Some of these cases have been referred to as idiopathic peritonitis, due to the fact that no gross lesion can be located. Some of these cases at least. are due to an acute appendicial infection which passes rapidly through mucosa, muscularis and peritoneum without the usual tissue reaction. Histological studies of our small series of these cases has invariably shown a degree of leucocytic infiltration and at times bacteria in the lymph spaces

For practical purposes of the clinical surgeon, I believe that we may divide appendicitis into two general classifications, namely, appendicitis acuta and appendicitis chronica. Appendicitis catarrhalis acuta, appendicitis purulenta necrotica, peraappendicitis acuta are all progressive changes in the same condition and differ only in the stage of progress. Appendicitis chronica and appendicitis obliterans may be classified under the heading of chronic appendicitis.

Etiology: It is seldom that we are able to assign a definite exciting agent. The finding of seeds, inspisated feces, bits of shell and other foreign material in a diseased appendix does not appear frequently enough to account for many cases. In a few instances, these foreign particles might well traumatize the mucosa or occlude the lumen of the appendix and allow the invasion of bacteria. Focal infections, I believe, play a very important role in precipitating an acute attack of appendicitis. In a hurried review of the last five years' work, I find that over fifty percent of my patients give a history of recent cold, tonsilitis, bronchitis or influenzal attacks. During the past year, I have operated a number of children and young folks with purulent and necrotic appendicitis who were suffering with or just recovering from what had been diagnosed as an influenzal attack.

Dr. Edward Rosenow has suggested that appendicitis is a blood borne disease, and like rheumatism and arthritis, the portal of entry of the invading organism is in some distant part of the body.

Insofar as I am able to judge, age, sex, or occupation have little or no influence upon the disease. I am mindful, however, that most authors assign appendicitis acuta as a disease of the young. I recall several very recent cases between 61 and 73 years old.

Symptomatology: The classical symptoms of acute appendicitis are:

1. Sudden abdominal pain, at first diffuse, soon referred to the right lower quadrant.

2. Fever, gradually rising.

3. Gastro-intestinal disturbances, nausea, vomiting, diarrhea is present in some; constipation is complained of by others.

4. Tenderness on pressure over the appendix.

While these are the classical symptoms it must be remembered that they are not always present or elicited in academic clarity. Pain is usually of sudden onset of a griping or gnawing character, diffuse at the onset, later referred to the right lower quadrant. Some patients will complain of little or no pain in the presence of a gangrenous appendix; others complain of much pain with little pathological change. Children usually refer the pain to the region of the umbilicus, seldom to the right side until later in the acute stage. The pain may be referred to the bladder area, the testicle, ovarian region or to the right leg, less frequently to the kidney or gallbladder area. With the exception of the umbilical pain in children, I believe there has always been evidence of previous attacks where pain has been referred to adjacent organs.

Fever: No less an authority than the late J. B. Murphy states that fever is present early in all cases of acute appendicitis. I would hesitate to contradict so eminent an authority; but I must say that if the general practitioner relied upon this symptom alone he would often wait too long to save his patient an abscess or peritonitis. Within the past two months, I have seen five patients, all with pus in the appendix and three with plastic exudate on the peritoneal covering of the appendix, where the attending physician had not found an elevation of temperature above 99° F. Fever to be sure, is usually found but not essentially so.

Gastrointestinal:The tongue is coated, the breath has a feted odor in severe and gangrenous cases. Nausea is usually present, though vomiting may often be absent. Diarrhea and constipation have been about equal in our observation. Most often the bowel condition is unchanged from the usual condition.

Physical findings: 1. In the first few hours of acute appendicitis the abdomen may appear normal to inspection. Later, there may be a slight distention. The right thigh may be flexed on the abdomen.

2. Palpation will usually reveal, even though slight, a perceptable rigidity of the abdominal muscles of the right side. Peritoneal involvement

is not necessary for the presence of this sign. Tenderness and pain elicited upon pressure over McBurney's point in most instances. Many times, however, the point of greatest tenderness is away from this point, especially in children, in recurring attacks and when the appendix lies retrococally. In thin individuals a mass may be felt in the first few hours. Rectal examination may reveal this mass earlier than abdominal palpation.

The absence of muscle rigidity and tumor mass do not necessarily rule out acute appendicitis. Even the absence of pain on pressure has been noted in many cases of marked virulence. If the inflamed mass be protected by gas distended intestines or if it lies behind the caecum, pain on pressure and muscle rigidity may be wanting. The pulse rate is elevated and should be repeatedly observed in order to be certain of its rapidity.

Laboratory Findings: An examination of the blood will usually reveal a leucocytosis of the poly-morpho-neuclear cells. The total white count may range anywhere from eight to thirty thousand. While a careful blood examination should be made in every suspected patient, it can be relied upon less than the temperature findings. Many very severely infected appendices will be found with a normal or even subnormal white blood count. In the presence of a severe infection a low leucocyte count is an omnious sign. The patient is not reacting normally to his infection. Post-operatively drainage will likely be scant and complications more frequent. Urine examination frequently reveals a faint trace of albumen. Casts and pus cells are often found. This is more frequent where the appendix lies close to the right ureter. In some cases I have suspected a mild pyelitis which happily has disappeared with the clearing of the appendicial infection.

Diagnosis: a. Sudden pain in the abdomen localizing in the right iliac region, when associated with nausea, or vomiting, fever, and elevated pulse and a leucocystosis almost always means acute appendicitis. However, I want to emphasize that all of these signs need not be present.

b. Differential Diagnosis: It is not always easy or even possible to differentiate acute appendicitis from other acute diseases. A careful examination of the records of our hospitals, I believe, would reveal many cases operated for acute appendicitis who were coming down with a right sided central pneumonia. Here the breath sounds may be normal or nearly so, the pain referred to the abdomen and the muscles more or less rigid.

Acute gallbladder disease may be mistaken for acute appendicitis. Recently, I operated upon a rather stout lady who came complaining of acute pain just below and to the right of the umbilicus. I could detect a tender mass which did not move with respiration and which did not appear to be continuous with the liver but upon exploration there was found to be a long narrow gallbladder filled with purulent material.

Kidney colic may be mistaken for acute appendicitis. Stone lodged in the right ureter often simulates acute appendicitis.

Dr. Verne C. Hunt of the Mayo Clinic told me some years ago that by far the greater number of patients he had operated for right ureteral stone had previously had the appendix removed. Dietl's crises may simulate or be mistaken for acute appendicitis.

Infectious diseases, as typhoid fever, acute pancreatitis, or infected diverticulum may simulate appendicitis.

Last year, I operated upon a patient having diagnosed acute appendicitis who had a gangrenous appendical epiploica with localized peritonitis.

Disease of the right fallopian tube, or torsion of an ovarian tumor in women may be mistaken for acute appendicitis. Even Potts' disease has been operated upon for appendicial abscess.

The complications of acute appendicitis are rupture, localized peritonitis, general peritonitis, necrosis of bowel, peri-nephritic abscess, pelvic abscess, illeus, etc—I shall not attempt to discuss all of them; sufficient to say that if properly treated while the appendix is still acute, complications will be almost nil.

Treatment: Early surgical operation is the only rational treatment for acute appendicitis. The physician who willingly puts his patient to bed with an ice cap in the hope that he may recover, is not giving his patient an even chance in view of the low mortality rate in the hands of a competent surgeon. Palliative measures should only be used until the patient can be safely lodged in a surgical hospital.

The technic of surgical operations for appendicitis has become so well standardized that it is scarcely necessary to enumerate the steps. I will only refer to a few. It is my practice to make a right rectus incision. One can get as much or little room as he needs. In case of drainage there is little fascial slough and an absense of post-operative hernia. Disturb the intestines and peritoneum as little as possible and remove the infected appendix even in presence of abscess unless the patient is in extremes. It will shorten the convalescence and probably prevent a subsequent operation, adding little or none to the shock of operation. For many years past, the majority of surgeons have crushed the stump of the appendix, tied it, cauterized the cut end, placed a purse string around the stump and inverted it. Ever so often, some one presents an article condemning this procedure as one leading to the complication of abscess in the wall of the caecum. I have never seen such complications arise. Those objecting to this method tie the artery to the appendix and meso-appendix, crush it and ligate the stump and drop it back into the abdomen. There is a chance for slipping of the tie with consequent hemorrhage and soiling in cases of gas distension. Its only advantage is the saving of time, an insignificant thing when compared with safety for the patient. For the past ten years I have used catgut throughout and without a single bad result. In case of doubt as to drainage, put it in. Penrose drains or other rubber tissue properly placed and timely removed do not prolong convalescence nor predispose to infection or other complications. The closing without drainage of an abdomen with infection or questionably infected material in it, is taking undue chances with some one else's life. There has been a growing tendency among many surgeons to drain fewer and fewer acutely inflamed abdomens. Years of experience will lead one to know in a great measure which ones will or will not require drainage. The undue regard for drainage is too near like seeing how near one can walk along the edge of the precipice without falling in. Our mission is not one of surgical gymnastics or statistic making in this or that method, but the preservation and prolongation of life.

THE ACUTE GALLBLADDER*

ALFRED BROWN, M. D., F. A. C. S.,
Omaha, Nebr.

Acute disease of the biliary apparatus always presents a difficult problem to solve. The attending physician must decide whether the case requires immediate surgical operation to save life or whether it is safe to let nature take its course until the acute symptoms have subsided and resort to operation at a later time. I say this because I have the firm conviction that one attack of acute biliary disease is an indication for surgical intervention even if the manifest symptoms of the disease disappear and the patient is apparently symptom free. As one attack of acute appendicitis is rarely the only one and operation eventually becomes necessary, so after one attack of biliary disease, true normality is rarely, if ever, restored and though the acute symptoms may not recur for weeks, months, years or never there is a slow increase in the pathology which, through the interchanges between the gallbladder wall and liver cells, sooner or later involves the hepatic mechanism and results in a patient who though not acutely sick is nevertheless chronically invalided to a greater or lesser degree and consequently physically and economically handicapped.

In order to be in a position to make the decision between immediate operation and watchful waiting it is necessary that the basic differences in gallbladder pathology as seen by the surgeon be understood. For purposes of making this differentiation they may be divided into two main classes which may be defined as:

A. The mechanical disturbances of the biliary tract, to which little or no infection is added.

B. The infectious disturbances of the biliary tract, occurring either as additions to mechanical disturbance or originating without mechanical disturbance and giving rise to the symptoms of mechanical derangement only when it has been caused as the result of the pathology of infection.

The problem of surgical intervention thus rests upon the ability of the physician to determine whether infection is present to such a degree that return to approximate normal is impossible and if this is the fact insist upon immediate operation even in the face of the infection. The outcome of the case will be determined by the promptness with which the diagnosis is made, for in biliary disease as in all other acute surgical disease of the abdomen, the period of time elapsed between onset of disease and the institution of surgical intervention is one of the most important elements, if not the most important factor in determining recovery. In biliary conditions this is particularly true, for if a case is encountered late when adhesions, thickening of the gallbladder wall, and enlargement of the liver render removal of the offending gallbladder by cholecystectomy inadvisable, only the palliative operation of cholecystostomy can be performed and the patient, though recovering temporarily, will still have pathology present and secondary operation will be required in a large percentage of cases.

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*Read before the Nebraska State Medical Association, annual meeting, Hastings, May 15-17, 1928.

The first class of biliary diseases comprises that type which produces the syndrome commonly referred to as biliary colic. It is hardly necessary to refer to the sudden onset, acute pain in the right upper quadrant, radiating to the right shoulder blade, nausea, vomiting, and the intense, cramp like, paroxysmal character of the pain which can be relieved only by morphine. There are, however, two factors to which I desire to call attention. First the onset: In mechanical biliary disease as in any other mechanical disturbance in the way of blockage within the abdomen, the patient can give the exact time, almost to the minute, when the onset occurred. There is no hesitation or doubt, the time is definitely fixed in the patient's mind. The second factor is the high leucocyte count. These cases of simple mechanical biliary disease will give a leucocyte count as high as 30,000 per cu. mm. with no determinable infectious pathology and return to apparent normal in a few hours. Consequently, as a determinant of the presence or absence of infection, the leucocyte count cannot be relied upon.

The conditions falling under the mechanical classification are:

a. Stone impacted in the neck of the gallbladder or the cystic duct.
b. Kinking of the cystic duct at its junction with the gallbladder as described by Krukenberg and Aschoff.
c. Torsion of the gallbladder.

With the exception of torsion of the gallbladder the acute symptoms referable to mechanical disturbance of the biliary tract, though extremely severe while present, usually subside in a few hours and the patient becomes comfortable as the smooth muscle of the gallbladder wall relaxes and so relieves the obstruction. When torsion has occurred the condition passes into the inflammatory stage with resulting gangrene of the wall and its attendant dangers, thus becoming an abdominal emergency.

Hydrops of the gallbladder may result from mechanical blocking of the cystic duct either by stone or kink with only a low grade infection of the gallbladder wall and thus become an abdominal emergency, which, though not acute as to infection must be classified with the infectious type of biliary disease.

When acute infection is added to the picture, either with or without mechanical block, the more common type of acute gallbladder disease is encountered. The offending organism may be of almost any type and even the gas bacillus of Welch has been described (Cottam). The more frequently found types, however, are the staphylococcus and colon bacillus. The pathology present runs through all the stages from acute cholecystitis, in which the wall of the gallbladder is intensely red and thickened, to complete gangrene of the organ with perforation and abscess formation in the neighboring structures, the abscess usually being walled off by the omentum as the result of an accompanying pericholecystitis. The gradations in the pathology are not clearly defined but I have found the following a fairly satisfactory working classification.

B. INFLAMMATORY.

a. Hydrops of gallbladder.
b. Acute inflammatory cholecystitis.
c. Acute suppurative cholecystitis.
d. Gangrenous cholecystitis (mechanical or infectious).
e. Acute pericholecystitis with or without perforation of gallbladder and with or without abscess formation.
f. Acute pancreatitis may be the first acute symptom.

SYMPTOMS.

a. Sudden onset.
b. Pain radiating to right shoulder, acute and severe.
c. Fever of moderate degree.
d. Nausea and vomiting.
e. Leucocytosis generally high.
f. Abdominal tenderness and rigidity.
g. Pain persisting 24 hours or more or returning after a short remission indicates an inflammatory lesion which requires operation.
h. Development of a mass in upper right quadrant denotes inflammatory type and requires immediate operation.

The symptoms are of interest as subjects for analysis to determine which ones we can rely upon to make the diagnosis between an attack of acute biliary disease which will subside and one in which operation should be performed immediately. In all cases the classical symptoms of pain and slight fever with abdominal tenderness and rigidity and sometimes nausea and vomiting are present and will be of no aid in the determination. A high leucocyte count is likewise untrustworthy. The two signs that I believe can be relied upon are (a) the duration of the attack and (b) the development of a mass in the upper right abdomen. The acute pain accompanying an attack of uncomplicated biliary colic rarely lasts over eight or twelve hours. If it persists beyond that length of time or subsides temporarily to recur within a few hours with equal or increased intensity the probabilities are that infection is present and surgery is indicated. If at any time during the attack a distinct mass can be palpated in the upper right quadrant under the liver margin it is safe to assume that the infection of the gallbladder has gone beyond the stage in which return to normal is possible and resort to operation.

In Conclusion: Acute biliary disease severe enough to demand operation in the primary attack is rare, though occasionally it may be encountered. The more usual occurrence is a succession of attacks during each of which the infection increases and the viability of the gallbladder wall diminishes until finally its resistance is so far broken down that the gallbladder is no longer able to overcome the infection. Suppuration, perforation or gangrene then ensue, and cause an acute abdominal emergency.

The proper procedure is obvious. Gallbladder disease of sufficient severity to cause an attack of biliary colic should be regarded as a surgical condition and operation be performed when acute symptoms are not present. At that time cholecystectomy can be performed under good conditions and the patient thus afforded the best chance of permanent relief and be saved the likelihood of an attack of serious abdominal disease, during which operation, performed as it is, under stress, is both dangerous to the life of the patient and unsatisfactory in its morbidity results.

If a course, as outlined above, be pursued, the incidence of acute biliary disease of sufficient severity to warrant operation during the acute attack will be greatly decreased.

THE ACUTE PELVIS*

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Patients suffering from acute pelvic conditions usually present themselves complaining of sudden onset of pain, bleeding, discharge, urinary symptoms, swelling, abdominal rigidity and often of nausea and vomiting, or some combination. To facilitate the study of these symptoms they may be classified, with a few minor exceptions, into two groups:

First—Inflammatory, due to micro-organisms, particularly the gonococcus and the streptococcus, from which acute salpingitis, acute exacerbation of chronic salpingitis, pelvic peritonitis, cellulitis and uterine sepsis in its various stages, are common conditions.

Second—Mechanical. In this class, we see ruptured ectopic pregnancies, perforation of the uterus, hemorrhaging or rupture of ovarian cysts, ovarian cysts with twisted pedicle, incarceration of fibroids, vaginal or bladder hemorrhage, ureteral stones, strangulated hernia, intussusception, ruptured uterus, uterine hemorrhage with cervical obstruction, and peritonitis from chemicals injected intrauterine with criminal intent.

Pelvic infection is a very common disease. General considerations affecting its occurrence are as follows: First, there is a communicating canal from the outside to the peritoneal cavity with direct continuity of mucous membrane. Second, infection is introduced or implanted as in the case of the gonococcus. The more delicate the epithelial lining, the more readily is it infected, hence, the frequency of urethritis and the ease with which vulvitis and vaginitis occur in children. Third, venous channels are opened during labor or abortion. Fourth, breaks in the canal are frequent in cases of labor or abortion and especially in self-induced abortion. Fifth, latent infection may persist for a very long time in the deep racemose glands of the cervix and become active as the result of injury.

Diseases in this group are the result of invasion by organisms. Of these, the gonococcus and the streptococcus are the more potent factors in pelvic disablement of women.

The results of pelvic infection may be classified broadly into local and general. Fortunately the former greatly predominates. In these, there is marked local reaction with varying constitutional symptoms but no particular blood involvement. In general infection, the blood is involved and there is often little or no local reaction and the mortality rate is high. General infection of the peritoneum and other serous membranes of the viscera frequently precedes death.

Local reaction is inflammatory and pre-supposes mass formation. Therefore, in cases of suspected pelvic infection, one should be pleased with evidence of mass formation as it is the sign of localization. Although pelvic infection is so common there is no place in the body where localization so readily takes place. Anatomical conditions are distinctly favorable.

The average clinical course is marked by the stages of onset, maintenance, retrogression and convalescence. The onset, which, as a rule is not especially abrupt, is accompanied by pain and frequently discharge and urinary symptoms. Pain is due to inflammatory congestion, the discharge to the infection of the mucosa of the genital canal and the urinary symptoms to urethral or perivesicular congestion and pressure. There may be nausea and vomiting, the temperature is elevated, and the lower abdomen becomes tender and rigid and distention may occur. For a few days the severity of these manifestations of the disease may tend to increase but when mass formation with localization is complete, the patient remains more comfortable. Through the stage of maintenance the temperature remains elevated with slight morning remissions. As retrogression proceeds the temperature gradually falls to normal. Slight recurrences are frequent before the normal is maintained, at which time immunity is established. Following this, convalesence slowly progresses though it may not be free from bad days. The onset, maintenance and retrogression frequently occupy a period of three weeks. During the next two or three weeks, recrudescence is common, showing that immunity is not complete. Normal temperature is usually maintained after six weeks except in tuberculous cases. The blood in most cases shows some leukocytosis. The added congestion of a menstrual period usually induces added pain.

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*Read at the Nebraska State Medical meeting, Hastings, Nebr., May 16, 1928.

Diagnosis of pelvic infection, as in all pelvic diseases, depends primarily on the history which, if thoroughly elucidated, will most likely group the case among the infections. So many are post-abortive or puerperal that the starting point is readily found. This is not so easy, however, in gonorrheal cases, but a very careful inquiry will usually elicit evidence of a discharge or some irritability or undue frequency in voiding urine as having existed at some time previously. Besides a survey of the patient's general condition, it should include a careful examination of the abdomen and when possible the pelvis. The abdominal tender points should be accurately located, rigidity investigated and contour observed, and the presence or absence of masses determined.

Accuracy is essential in these cases and particularly where there is marked pain with vomiting, distention, tenderness, rigidity, high temperature, and elevated pulse, symptoms and signs which mark the so-called "acute abdomen", for an abdomen like this in pelvic infection is not surgical. It is vastly more important to diagnose a case as one of pelvic infection than to designate the particular lesion in the early stage so that the case is determined to be non-surgical, at least primarily. Later on, when mass formation is definite, it is readily possible to decide upon the lesion or combination, and by so doing the ultimate outlook and results can be more readily estimated. Also, if in the acute stage it becomes necessary to aid nature in a surgical way, it is essential to know the lesion so that the abscess can be drained without damage.

In regard to differential diagnosis, acute appendicitis is most important for in this disease early surgical treatment has but few risks, and is a well established procedure.

Regarding the management and treatment of pelvic infection as stated before, conservation is the plan to be followed. In the early stages treatment is non-surgical. Symptoms should be relieved and the patient supported against what may prove to be a long and serious illness. The patient must go to bed and stay there until advised to get up. If this cannot be done at home and careful nursing provided, the patient should go to the hospital. Co-operation on the part of the patient and a willingness to continue treatment as long as necessary for a cure is not only the best plan of avoiding a destructive operation but gives the best chance for complete recovery following an operation, if such should become necessary. It is a good plan to discuss the idea of self-immunization and a possible complete resolution with the patient as soon as the condition permits so as to give some idea as to what is to be expected by continuing to rest in bed, at the same time giving assurance that there will be good and bad days but ultimtely a good recovery.

Pain and distention may be relieved by heat or ice packs—either may be used as is best tolerated by the patient. When heat is preferred, I usually have the radiant heat applied for not less than an hour, or better an hour and a half at a time. In some cases, this treatment is used twice daily followed by the electric pad. Distention is frequently controlled by small enemas once or twice daily and I find that milk and molasses acts to a better advantage in most cases than other compounds.

Under such treatment, with careful nursing added, the case usually progresses satisfactorily to a state of self-immunization and the stage of convalescence. Then comes the time for important decisions.

If radical operation is decided upon a high degree of safety demands at least two weeks of normal temperature, thorough definition of the remaining mass, with lessening of the previous fixation. A longer period than two weeks normal temperature is safer still, as the more established the immunization, the less is the risk from secondary infection, and it is not bad practice to massage the mass a few times before operation to see if a flare-up can be produced and that immunity is really established.

Some surgeons are inclined to disregard nature's splendid achievements and do not wait for the state of self-immunization to become established. They will take the risk of interfering earlier, forgetting that the risk is not theirs but the patient's. Their operations are quite destructive and rarely of a conservative type and though they may claim success in such practice the soundness of their judgment is open to question.

In the cases in which early surgical intervention is required as suggested above, it is for the purpose of draining rapidly-formed pus when the symptoms are unusually severe and examination reveals softening of the mass. Operations for this purpose should be performed with the least damage to the peritonium and special effort made to protect nature's limiting boundary. After opening one of these abscesses, thorough drainage should be established. This procedure not only relieves the urgent situation but frequently cuts down to a considerable amount the duration of the disease. In rapid general peritonitis of pelvic origin, when blood infection does not appear likely, free suprapubic and bilateral drainage occasionally relieves a desperate situation.

In cases proceeding to abdominal operation at the period of election, while conservation of function merits consideration, the operation should be radical enough for the removal of all diseased structures and to preclude the likelihood of recurrence and further operations. Thorough recovery and subsequent good health is most desired.

Time will not permit discussion of the various aids to treatment such as vaccines, dyes and other agents introduced to speed up nature's action, or to deal with surgical technique. Suffice it to emphasize that by recognizing nature's plan of defense and overthrow of enemy organisms and taking suggestions therefrom one may virtually say that in the treatment of localized pelvic infections there should be no mortality.

The conditions occurring in the mechanical classifications call for surgery either of a reconstructive or a destructive type. The etiology, diagnosis and treatment of the conditions of acute pelvis are more or less obvious. However, I would like to present to you a few cases illustrated by a synopsis of our hospital records.

CASE REPORT NO. I.

Mrs. R. Age 33. Farmer's housewife by occupation.

Family history negative. Married at age 19. Previous health had always been good. Has two children, ages 10 and 12. Menstrual periods were regular up to September 17th, 1926, when she missed her menstrual period which was due November 15th but had no symptoms of pregnancy. The morning of November 27th, she was advised by her neighbor to inject turpentine through the cervix to start her periods. She did this with a long syringe using spirits of turpentine. Immediately after the injection severe pains started. November 28th, started flowing and passed a few small blood clots. November 29th the pains became more severe over whole of lower abdomen with increased vomiting which started the same day the injection was made and was unable to retain any fluids. Bowels were regular. Was seen by her physician on the morning immediately after the injection and again two days later at which time she had a temperature of 99.5, pulse 100, with regurgitation of gas and extreme abdominal pain, very tender to the touch. Was referred to the Falls City Hospital at 9 p. m., November 29th.

Physical examination on entering the hospital was negative except for a greatly distended abdomen with marked tenderness, soreness and pain over the whole abdomen particularly marked over the brim of the pelvis. Patient was extremely nervous and irritable. Her condition was such that a pelvic examination was not considered. Patient was put to bed in a semi Fowler's position with instructions to keep her at complete rest and ice bags were put to the abdomen.

Blood examination showed a leukocytosis on admission, of 12,000. Nov. 30, 14,000. Dec. 1, 11,000. Dec. 2, 16,000. Dec. 4 and 5, 18,000. Dec. 6, 17,000. Dec. 7, 14,000. Dec. 8, 13,000. Dec. 9, 10,000. Dec. 10 and 11, 9,000. Dec. 13, 11,000. The urine was negative.

On December 14th, abdominal examination revealed two large well defined localized masses in the region of both Fallopian tubes. The abdominal distention had disappeared, bowels were moving regularly and the abdomen was flat. Her temperature had been normal for a period of two weeks, having subsided the second day after admittance.

On December 14th, patient was operated upon through a mid-line incision with the following gross findings: Bilateral pyosalpingitis, both of which were tense with intratubal pressure. There were diffuse, dense adhesions of abdominal viscera. The uterus was enlarged to approximately the size of a two and a half months' pregnancy, and the walls were flabby. The appendix was highly inflammed at its tip. Both Fallopian tubes and the appendix were removed and three small rubber drainage tubes were placed in both ovarian regions. The uterus was not entered at this time as there was sufficient dilation for drainage and was let alone for further observation. On December 22nd, patient complained of cramp-like, bearing down pains, the cervix was partly dilated and there was some vaginal odor. At this time a dilatation and light curettage was performed with the removal of necrotic mucous membrane but no fetus was found.

Patient remained in hospital a total of five weeks and after the first two days she had a normal temperature, pulse and respiration. She was dismissed January 4th, 1927, and was seen one year later at which time she was apparently in a normal condition, had more than gained her usual weight and was totally free from pain.

CASE REPORT NO. II.

Miss M. Age 17. High school girl.

Family history unimportant. Past history, has always been well. Present complaint: Abdominal pain which started a few days before entering the hospital, high up in the epigastrium, later localizing in the right side. Pain was accompanied by nausea and vomiting. No history of venereal disease. Her menstrual periods had always been regular.

Physical examination showed a well nourished girl. Examination was negative except for marked rigidity over McBurney's point and lower abdomen. Urine was negative, leukocyte count, 22,800, temperature 100.2, pulse 120, respirations 22. A diagnosis was made of acute appendicitis and an immediate operation recommended. Patient entered the Falls City Hospital at 8:10 p. m. and was operated upon at 8:50 p. m. The gross findings at the time of operation showed left ovary and tube normal, uterus normal; right ovary was twisted upon its pedicle which required two complete turns to relieve and was enlarged to the size of a lemon due to an ovarian hemorrhage. The right tube was hemorrhagic and there was also a hemorrhage within the broad ligament. The appendix was normal in appearance. Operation consisted of the removal of the appendix, the right ovary and tube.

Patient remained in hospital for a total of twelve days and was dismissed with the wound completely healed and free from her original trouble.

The point to be noted in this case is the mistake in diagnosis wherein the symptoms were those usually found with acute appendicitis.

CASE REPORT NO. III.

Mr. H. Age 57. Farmer.

Family History: Father died at 73 of Bright's Disease. Mother at 77 of heart trouble. Has several brothers and sisters living, all well. Previous health has been good except for an attack fifteen years ago when he was in bed three weeks, being treated by his physician for inflammation of the bowels.

Present complaint: Severe pain in lower right side. History of present complaint: Patient claims he had a similar pain, the winter of 1925, which pain was more moderate, but he continued to work. The present attack started with pain in the right side, originating in the back and extending over right side of abdomen. Pain came on suddenly August 7th, 1927. He rested well that night and felt fairly well on August 8th. Severe pain returned at 5 p. m. on August 8th and lasted all night. Pain was still present on the 9th and 10th, and on the 11th it continued to get worse. In the beginning, pain did not radiate down the inner side of right leg or to the genitals, but after three days he had slight pain at end of the penis. Treatment up to this time by his physician, consisted of calomel, castor oil and rectal enemas which relieved the pain for a short time. He was first seen by me at 3 a. m., August 12th, at which time his pulse was 55, temperature 99, respirations 18, in severe pain.

Physical examination negative except for a rigidity over lower right quadrant, and badly infected teeth. On forcing the gas upward through descending and transverse colon, pain was slightly increased over McBurney's point. The pain and rigidity over McBurney's point was apparently very acute and sensative. Tentative diagnosis was made of either acute appendicitis or a ureteral stone. He entered the Falls City Hospital early Saturday morning, August 12th, at which time x-ray examination of the right kidney showed a slight enlargement but no evidence of a stone. The urine contained large amounts of blood and pus. His blood pressure was 140/90. The blood examination showed 17,600 white cells. Patient was placed in bed, was given a quarter grain of morphine in 2 cc of magnesium sulphate, heat applied over lower abdomen and a rectal enema given. Instructions were left for close examination of all urinary secretions for gravel, and temperature and pulse record to be taken every three hours. Following administration of another hypodermic of morphine sulphate in the afternoon, the pain was somewhat relieved and upon examining a specimen of urine voided, a coral-shaped stone was recovered. Patient was kept under close observation for further developments in his right side and on the morning of the 13th, the leukocyte count had reduced to 12,600. There still remained a localized rigidity directly over McBurney's point together with a localized area of extreme tenderness by percussion.

Diagnosis was made of acute appendicitis and his abdomen was opened under a local anesthetic. A highly inflammed appendix was removed. Patient made a nice, uncomplicated recovery and was free from all pain four days later. A close observation was kept on the patient's urine. He was passing normal amounts and the blood and pus cells gradually cleared. His urine was carefully watched until August 23rd, during which time there was only an occasional pus or blood cell found. On August 23rd, a double alveolectomy was performed and all pathology removed from his mouth. He remained in the hospital a total of 17 days and was dismissed free from original complaint.

This patient has been seen occasionally since that time and has had no return of any of his symptoms. Says he feels better than he has for years and is working hard at his farm duties daily.

CASE REPORT NO. IV.

Mrs. A. Age 26. Married. Housewife.

Family history unimportant. Previous health has always been good. Has two children, the youngest 3 years of age.

Present Complaint: Pain in lower right quadrant. History of present illness: Her menstrual periods had been regular until December 7th. Since that time she missed her periods in January, February and March of 1926. March 25th, she developed a sudden pain in the lower right quadrant which was followed by some uterine hemorrhage. She was seen by her physician and was given a hypodermic of ergot which contracted the cervix and checked the vaginal hemorrhage. Following the administration of ergot, the pain was increased and patient was put to bed. She was seen the following morning in consultation with another physician and at that time, the pain was still severe. The patient expressed herself that she was much larger in the lower abdomen and upon standing, there was a dribbling of blood from the vagina. Following the consultation of the two physicians, she was referred to the Falls City hospital on March 29th, 1926.

Physical examination at that time showed a tumor mass in the right side which felt like a tubal pregnancy. The mass was very tender and painful to the touch, the cervix was considerably contracted and showed no signs of softening. The uterus was large enough for a two and a half months' pregnancy and a tumor mass could be felt to the right of the body of the uterus. Blood examination showed 12,200 white cells. Urine was negative. Diagnosis of ectopic pregnancy was made and an operation performed.

Gross findings: Uterus was large, soft and boggy. The right cornu was dilated and pouched out as if from internal pressure. The uterus was filled with a substance that felt like a hydatidform mole to the touch through the uterine wall. There was no evidence of ectopic pregnancy. The abdomen was closed following the removal of both Fallopian tubes and appendix. The cervix was then gently dilated and there was evidence of a hydatidform mole. A pack was placed in the cervix and posterior vaginal vault and the patient returned to bed. The pack was allowed to remain for twenty-four hours when dilatation was fairly complete and the following day, patient passed a fairly large bloody mass which upon examination was found to be a hydatidform mole. The mass came away evidently intact and nothing further was done for this condition.

Patient remained in the hospital fifteen days at which time she was dismissed free from the original trouble.

ACUTE PERFORATIONS OF THE ABDOMINAL VISCERA

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It is nearly always possible *after* operation, when the patient's equilibrium and that of his family and friends is restored, to get a history of antecedent symptoms in every case of acute perforation of the abdomen, whether the lesion is in the stomach, duodenum, gallbladder, pancreas, appendix,—all of these in the male; in the female may be added infections or impregnation in the fallopian tubes.

The perforations with which we chiefly have to deal are those of the stomach and duodenum, and are due to ulcers. They occur about twice as often in the latter as in the former. The perforation of an ulcer of either the stomach or duodenum may be acute, sub-acute, or chronic. It is acute when there is a sudden rupture and the contents of either the duodenum or stomach escape freely into the peritoneal cavity; sub-acute or chronic when the leakage is slow and held back in a more or less limiting way by adhesions to neighboring tissues.

It is almost the rule that when a perforation occurs it concerns a chronic ulcer. Moynihan states that "in the Leeds Infirmary, from 1910-1921, there were sixty-one deaths from perforation of a gastric ulcer; in sixty cases the ulcer was of the chronic variety. There were 117 deaths from perforation of a duodenal ulcer. In twelve of these cases there was an acute ulcer; in four of the twelve there was a chronic ulcer also, and it was in every case the chronic ulcer which had perforated. So, as Moynihan says, "it is certain, therefore, that the perforation whose symptoms and treatment we are to discuss, is concerned, as a rule, with chronic rather than with acute ulcers", and, therefore, we must conclude that in each such instance there has always been an antecedent history which, rightly interpreted, should have either led to curative medical treatment or else to surgical intervention before threatening symptoms of perforation have become a dangerous reality.

As I said in the beginning, it is almost always possible to get a history of antecedent symptoms *after* a perforation occurs. At the time of perforation we may or may not get a helpful history antedating perforation, which will aid in differentiating the location of the perforation, or help differentiate it from the several other types of the "acute abdomen" with which it may be confused.

It has often happened to me to be called to take care of a patient from whom, because of his acute suffering or apparent grave condition, it was impossible and, in fact, unnecessary to say positively that the lesion was *this* or *that*. The appearance of the patient, his position in bed (whether lying quiet or moving about); the character of the pain, whether intermittent or continuous. The condition of the abdominal muscles, whether rigid and exquisitely sensitive, or only partly so; the area of greatest rigidity and tenderness; whether there was vomiting or not, its character; did pain precede the vomiting. The pulse and temperature are not of much value in the early periods of an intra-peritoneal perforation.

Surgeons are all familiar with the classical symptoms of acute abdominal perforation, i. e., peritonitis. In the early stages the pain and muscular spasm are not due to peritonitis but to the irritation produced by the escaping gastric or duodenal contents through the perforation. This pain and tenderness is at first local, as the escaping fluid first irritates the peritoneum nearest the perforation. Later, it becomes more and more general as the fluid spreads downward. The pain is described as *excrutiating*. The breathing is short and quick; there is an anxious expression of the face. The sufferer lies as still as possible and dreads to be touched. The pain attacks the whole abdomen but is most severe in the upper part.

Attention should be called to the fact that although the patient's condition would indicate severe shock, because of his anxious expression, his short, difficult breathing, the fixed diaphragm and sub-normal temperature, there is in reality, at first, an absence of the usual evidences of shock, viz., the blood pressure is normal and the pulse is of fair quality.

There is no difficulty in differentiating a perforation of a duodenal ulcer from an acute appendicitis in their earlier stages, except when the colon in its rotation has only reached the right hypochondrium and has failed to descend, the caecum then occupying the gallbladder region.

A few hours after a perforation of the duodenum occurs the escaping fluid trickles down into the neighborhood of the appendix and the physical signs may indicate an acute inflammation of the appendix. There is in an ordinary attack of acute appendicitis less muscular rigidity and a lower local tenderness than in a case of duodenal perforation.

It is conceivable, and the experience of most of those who have had to do with cases of rupture of the gallbladder seems to support the position, that these ruptures, although they strongly simulate a rupture of the duodenum yet the symptoms are not so severe. My own experience is different. A patient suffering from an acute perforation of the gallbladder, operated upon by me, presented symptoms as intensely acute as I have ever seen in perforation of the duodenum.

I have operated upon a number of cases of acute pancreatitis in each of which there was a history of gallbladder disease, yet I recall only one instance in which the diagnosis of perforation of a duodenal or gastric ulcer was not made, the pain is said to be more severe in acute pancreatitis, and it often extends straight through to the back. There is more vomiting and the tenderness is more marked in the pancreas region. There are earlier signs of real shock; the pulse is fast. All of my cases, as I consider them now, were more ill than any of the many cases of acute perforation of the duodenum I have seen—with one exception: A man who died unoperated, twenty-four hours after the first symptoms of the perforation. An autopsy disclosed an intense peritonitis. There must have been in this instance some peculiarly poisonous property in the duodenal contents.

The study of blood findings is interesting in all of these instances, but as to its influencing action it may, in most cases, be relegated to a post-operative procedure.

The symptoms of acute disasters of typhoid ulcer perforations have such positive typifying characteristics that I will not discuss them.

The surgery of acute perforations of the abdominal viscera is that of prompt action following an early diagnosis. The technique should be in the hands of the man qualified to do the operation.

As I have said, as a rule, perforation occurs with chronic rather than with acute ulcers. It should, therefore, be a preventable complication. Chronic ulcers of the stomach and duodenum should never be allowed to progress to the late stage in which perforation occurs, and careful regard should be paid to any exacerbation or symptoms which may suddenly appear for these are often the clear warning of an increase in pathological activity in the ulcer, which ends in the rupture of its floor. It is almost true to state that when perforation occurs while a case is under careful medical treatment the ulcer is almost certainly malignant. Moynihan makes the statement that the clinical records in cases of extreme surgical emergency, with high death rates are necessarily imperfect, but so far as can be judged it is safe to assert that not less than one-fourth of the total number of cases of perforation are heralded by such an increase in the severity of the recurring symptoms — *pain* — that suspicions should be aroused as to the imminence of danger.

PREVENTION OF PERFORATION

The perforation of gastric or duodenal ulcers is preventable in the large majority of cases. When it occurs, it is, therefore, an evidence of neglect somewhere, either on the part of the patient by failing to consult a medical man or to follow advice which has been given him. It is an evidence of neglect on the part of the medical man if he has failed to recognize the condition and give appropriate counsel when the patient has consulted him.—Moynihan.

The patient must be made to know that he must consider more than a relief of symptoms: He must consider the healing of the ulcer and that this in every case requires many weeks, perhaps several months. 90% of cases of perforation affect chronic ulcers. These ulcers should have been recognized months or years before this late complication in their history. Although many patients have been treated over and over again, few have been urged to recognize the menace of the disease, its tendency to recur, and the necessity for protracted treatment, until long after all symptoms are in abeyance.

It is interesting to know that in St. Thomas' Hospital, London, a five years' trial of a special line of treatment of chronic gastric and duodenal ulcers, has resulted in the medical cure of practically most of the cases which have been admitted into that institution. So successful has been this effort that it has been found necessary to operate upon only the most aggravated cases. Of course, the cases of acute perforation which have been admitted have been operated upon promptly. The treatment of ulcers of the stomach and duodenum has always been the subject of a great deal of investigation, but until comparatively recently, the general opinion held by the profession was that these conditions were more or less incurable by medical means. The natural consequence was that very often patients suffering from these ulcers were subjected to various kinds of surgical operations in attempting to give relief from the distressing symptoms so often present. Surgery has had many great triumphs in this field, but it has also had many failures.

If the five years' experience of St. Thomas' Hospital, well checked up from every angle, both clinical and radiological, is further corroborated in other institutions having similar opportunities, there will be much less surgery done for the symptomatic relief of chronic gastric and duodenal ulcers, and consequently the calamities of perforation will be less often observed.

I cannot more than indicate the theory upon which their treatment of ulcers of the stomach and duodenum in St. Thomas' Hospital is based. To discuss the many theories of the cause of ulcer would be confusing. The results of the treatment are corroborative of one fact, viz., the ulceration is kept up and too often made progressive by a concentration of hydrochloric acid in these patients. A test meal may show that no hyperacidity exists, *but* what really happens in these cases is that acid tends to be secreted *after digestion is completed and after the meal has left the stomach.* There is a secretion of gastric juice when there is no need for it. Indeed it may be found in some patients, that a very considerable amount of hydrochloric acid is present in the resting stomach when the contents are removed before breakfast. This continued presence of acid when there is no food in the stomach, must have a deleterious effect upon any part of the stomach that has lost its resistance to gastric digestion. The best interest of the patient is to stop this secretion, but this is often impossible as long as the ulcer remains, for *it* acts as a source of irritation. A gastro-enterostomy when successful, lessens the secretion of hydrochloric acid and also the acid is neutralized by the pancreatic juice passing through the stomach opening into the stomach, and in this way assists in the healing of the ulcer.

The physicians in St. Thomas Hospital have found that by an intensive alkaline treatment they have been most successful in preventing an interrupted neutralization of the acid gastric juice. It is stated and apparently proven by them that "in practically all uncomplicated cases of gastric and duodenal ulcers it is quite easy to do this with really no inconvenience to the patient. Sufficient alkali is given to keep the gastric acid neutralized during a period sufficiently long to enable the ulcer to heal. The treatment must be thorough. Small doses of alkalis are sometimes harmful. I cannot go into the exact details of the treatment, they are not important. A few principles must be kept in mind. The most important point is to give sufficient alkali and to see that alkali is available during the night if required. In order to overcome, as far as possible, the possibility of the stomach becoming acid during the night, the patient receives a double dose of the powder immediately before retiring. One or two doses are left near the bed and he is warned, should he wake up in discomfort, to take a dose. The direct object is to prevent acid accumulations during the night on an empty stomach. Those further interested in this, to me important subject, will find full details as to kinds and doses of the alkalis, the diet, and a weekly schedule of how best to follow out the method, in the London Lancet, January 7, 1928.

In the writings of Moynihan will be found the best of advice regarding acute perforations of the abdomen, as may be evidenced in the enormous experience of the Leeds' Infirmary where he has practically done his life work. My personal experience in abdominal sugery is corroborative of that of Moynihan in many subjects. I have great confidence in his teachings, and I often, as I have in this instance, take the liberty of freely quoting his opinions, as they, better than any others with which I am familiar, express life-saving measures.

ACUTE INTESTINAL OBSTRUCTION—(MECHANICAL)*

S. O. REESE, M. D.,
Lincoln, Nebr.

Of the conditions causing the so-called acute abdomen, mechanical obstruction has an important part. Such a condition with its acute onset and usually rapid course has a mortality rate which varies from forty per cent to sixty per cent. I am attempting by a review of experimental work to lay a foundation for treatment of such a condition, which will aid in reducing the mortality rate.

In brief, this condition is frequently the result of former operations, especially where there has been a localized or general inflammatory process. The appendix is probably the most frequent offender, and may be the cause in the absence of an associated peritonitis. Neglected hernia with strangulation, volvulus, Meckel's diverticuli, are also important causes. Less frequently, thrombosis of the mesenteric vessels. Intussusception is a condition met with usually in early life and pyloric stenosis may be included. The simple obstructions like gallstones, enteroliths, and fecal impactions must be considered.

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*Read before annual meeting Nebraska State Medical Association, Hastings, May 15-17, 1928.

At this point I wish to say a word in regard to pyloric stenosis. This is usually not considered under mechanical obstruction so I will discuss it in a very limited way. Early diagnosis is important. Each case should have medical treatment if the child has not lost too much weight. This treatment should not continue more than seven to ten days, especially if there is no gain in weight. Operation, the Rammstedt type, should not have a high mortality rate if the preoperative treatment has not been too prolonged and if it is followed by efficient treatment as regards feedings. Such a child has little reserve and the sooner the obstruction can be completely relieved the better the prognosis.

The history and physical findings are always important in such a condition as acute obstruction. Briefly, the most constant symptom is pain which comes rather acutely, at first colicky and intermittent, later becoming more continuous. In a child with intussusception, this is shown by intermittent screaming. Vomiting is a later symptom. If the obstruction is high, vomiting is early; if low, it does not occur until late and is a very grave symptom. This continues whether there is anything taken by mouth or not. At first the bowels may move, emptying the bowel below the obstruction; usually, however, neither gas nor fecal content will pass. A later finding is distention and frequently hiccough. The patient's expression indicates his serious condition. On physical examination tenderness is usually not present at first; later, however, there is localized tenderness spreading as the condition progresses. Distention, not pronounced at first, may be extreme, especially where the obstruction is low. In the earlier stages peristaltic waves can be heard above the obstruction, but as the condition progresses and with increased distention they become less and less until we have the so-called silent abdomen. Tumor as a rule is not felt except in cases of intussusception. Here blood and mucus may be passed by bowel. With the intermittent screaming, blood and mucus by bowel, and feeling of the tumor by abdomen or rectum, this diagnosis is certain.

In such conditions as acute obstruction the diagnosis and not the cause is the important factor. Time should not be lost on the latter, once the diagnosis is made. We usually have some clue as to the cause from the history, in the way of previous operations or neglected hernia. In a child we know that intussusception is probably next to appendicitis as a cause of obstruction. So with a careful history and by process of elimination we have some idea as to the cause.

Considerable experimental work has been done which can be made practical in treatment of this condition. As early as 1909 McCallum and his coworkers called attention to the relationship between gastric tetany and pyloric obstruction. They found the mechanism to be an increased alkalinity of the blood and that there was a marked reduction of plasma chlorides due to loss of hydrochloric acid from vomiting.

Later Haden and Orr were able to show that similar changes occurred in high intestinal obstruction. They found that shortly after the obstruction was produced there was a reduction in the plasma chlorides, followed shortly by an increase of the non-protein nitrogen and urea nitrogen. The creatinine, uric acid and sugar content was little disturbed. Accompanying this there was an increase in the carbon dioxide combining power, producing what is called an alkalosis.

They interpreted this as a detoxifying process where the chlorides united with the toxins, producing a non-toxic substance. When the reserve chloride had been used, the non-protein nitrogen began to increase.

In animals where this obstruction was made high, they lived two to six days. An attempt to prolong life was then made by making up for the lost chlorides Accordingly sodium chloride solution was given with the result that the chlorides of the plasma could be kept up and the non-protein nitrogen kept within normal ilimits, thus prolonging life up to twenty-eight to thirty days. In order to show that it was not the water only, they tried concentrated solutions of sodium chloride, 10 to 25 per cent, with similar results except some accidental deaths from the concentrated solution. Distilled water alone hastened death. The solution that they felt gave the best results was similar to Ringer's solution, made up of—

sodium chloride	9.0 parts
ammonium chloride	0.5 parts
calcium chloride	0.3 parts
potassium chloride	0.2 parts

The ammonium chloride was used because of its tendency to produce acidosis. A one per cent solution was given subcutaneously, five per cent solution intravenously, with good results. There was a striking decrease of the non-protein nitrogen in every case.

After such an obstruction had been produced they found an anastomosis alone had little effect on the so-called toxemia, the animal dying as without treatment; but if preliminary sodium chloride treatment was given an anastomisis could be made and the animal get well.

Foster and Hausler recognized two types of intestinal obstruction. They recognized first a simple, acute obstruction, where there is a complete blocking of the lumen with no circulatory disturbance; second, the acute strangulation, where there is an associated venous-arterial and lymphatic interference. Of the first group we have relatively few cases such as enteroliths and gallstones. Most of the acute obstructions with which we come in contact fall in the second group. (Volvulus, intussusception, hernia, adhesions, etc).

Most of the experimental work mentioned above falls in this first group. Later Gatch, Trusler and Ayers published a report of their experimental work and were able to duplicate the above findings. In the high simple obstruction they felt the death was not due to a toxemia but to dehydration and starvation. The plasma chlorides were not noticeably reduced until after forty-eight hours, although this depended somewhat on whether the animal was starved before operation. The chlorides did not neutralize the toxins but were reduced according to the amount of vomiting; or if no vomiting, according to the amount retained in the upper digestive tract. By allowing the animal to take water freely, vomiting was more marked, there was a more rapid reduction in plasma chlorides which finally produced tetany and death. Tetany was never produced until the plasma chlorides were below 350 milligrams per 100 cc. This ordinarily did not occur unless the animal was given water.

Where the obstruction was made in the sigmoid there was neither vomiting nor reduction in the chlorides. Here the contents pass beyond the cecum where absorption of chlorides and water takes place.

It was also shown that sodium chloride without water will raise the chloride content but has little effect on prognosis. If the hypochloremia and dehydration are prevented for the critical period of the first five days, the animal with simple obstruction may then exist throughout the period of inanation without food, water or salt. The loss of chlorides by vomiting under such conditions will be slight because the starving stomach secretes very little hydrochloric acid.

In conclusion, death from simple obstruction is not due to toxemia. The high level of the plasma chlorides does not prevent death from an existing toxemia and does not have a detoxifying action. The sodium chloride has a specific value in that it overcomes the hypochloremia and dehydration, both of which are lethal factors. It is practically impossible to maintain a water balance in a dog with a marked degree of hypochloremia. They become dehydrated no matter how much water is taken.

The increase in non-protein nitrogen is explained by the dehydration with an associated impaired kidney function; possibly also from increased tissue destruction.

It was also discovered that there was a second factor in low obstructions. The sodium chloride aided for a certain period, then death followed.

In these cases autopsy did not reveal the simple obstruction but gangrene on localized areas of bowel and mesentery with an accompanying peritonitis as the cause of death.

Another factor must be considered in obstruction, especially those lower where strangulation is more apt to occur. After the obstruction once occurs, the proximal bowel may be very active at first in attempting to force its contents by. Gradually, however, there is dilatation, and the normal peristalsis stops first next to the obstruction, gradually upward. The reverse peristalsis continues, attempting to empty the bowel that way, which is the cause of the vomiting. The bowel itself becomes injected, edematous, and tends to secrete more. The stagnant contents produce more gas and with the increasing distention there is stagnation and later obstruction of the bowel circulation. This occurs first along the antimesenteric surface where the vessels perforate the wall, where the bowel anastomosis takes place. So in later obstructions dark, hemorrhagic to gangrenous areas may be seen, which make their first appearance at this site.

At present we have evidence of certain conditions produced in obstruction; first with high obstruction especially, dehydration and starvation are important. This is more marked and more rapid the higher the obstruction. In lower obstructions, for example a volvulus of the sigmoid, these factors are not marked because fluid enters the cecum and colon, permitting more absorption of chlorides and water. In these cases, however, we find that although furnishing water and chlorides aids, it does not have the same effect as in higher obstruction; and with the strangulation accompanied by its vascular disturbance other factors enter, of which the above are of little aid.

Here they consider another type of toxemia due to either the contents of the bowel or the bowel wall itself, the products of which cause death.

Many theories have been advanced. The contents of such a bowel are considered toxic. With loops isolated from secretions of pancreas, gallbladder and stomach, and free of food, there is a secretion formed which when diluted, sterilized, filtered, and injected into healthy animals produces a characteristic effect. There is a profound drop in blood pressure, collapse, subnormal temperature, vomiting, diarrhea, with splanchnic congestion, especially of the villi of the duodenum and jejunum. The toxin is formed either from the bacteria, the mucosa, or its enzymes. Bacterial activity plus necrotic tissue or the absorption of toxic products resulting from the action of putrefactive bacteria on necrotic tissue is the important factor in the rapid death in simple closed intestinal loops. Granting this is the source of the toxin, ordinarily this is not absorbed by the mucosa. Absorption is necessary. There is still some controversy, but with the associated distention due to fluid accumulation and gas, we have the associated circulatory disturbance of the bowel wall, producing finally congestion, later localized areas of gangrene on the antimesenteric wall especially. This may be the site of absorption.

Wangesteen and Loucks have produced some interesting experiments along this line. With histamine there is a characteristic drop in blood pressure on intravenous injection. They found that the absorption of histamine from the normal small intestine and in simple obstruction of small intestine cannot be detected by the physiologic test. Also in strangulation there was no noticeable absorption of histamine as long as the bowel was viable. To show that the histamine was not changed by the mucosa, they would take some of the bowel content and produce the typical histamine effect upon injection.

In strangulated obstruction there was a fall in the arterial pressure on release of the obstruction. Their conclusion was when the mucosa was deprived of its blood supply there is a rapid autolysis accompanied by the liberation of a toxic substance that gives a histamine-like effect.

I have spent considerable time in attempting to show what has taken place. In brief, with obstruction, especially at a higher level, we find death is due to dehydration and starvation. In lower obstruction or in those with strangulation. there is another added factor, the exact cause of which is not known. There is an increased secretion of the bowel above the obstruction, the contents become more toxic due to bacterial action on the protein or to some change in the mucosa itself. Under ordinary conditions it is felt this is not absorbed but the danger of absorption is increased with circulatory disturbance. With the continuation of the obstruction there is an increasing accumulation of gas and toxic material which in itself disturbs not only the local but general circulation. The local circulation is first disturbed along the portion of the bowel opposite the mesentery where first hemorrhagic areas and later gangrenous areas appear. This may increase the absorption or produce a peritonitis. The general circulation is embarassed by the increasing distention pressing the abdominal contents upward, compressing heart and lungs. This aids in producing the shallow breathing and rapid, weak heart. We have four factors:

(1) Dehydration and starvation.
(2) Toxemia.
(3) Mechanical-pressure.
(4) Release of the obstruction.

HOW MAY THESE BE COMBATTED?

Before taking up this, I want to discuss three points in treatment. First, when one is suspicious of such a condition, either pre- or post-operatively, he can judge of the condition better without the use of sedatives. Sedatives mask the symptoms and delay surgical treatment.

Cathartics should not be used. They are dangerous in that they not only intensify but may be the cause of producing peritonitis. Enemata may be used, but with findings as described there should not be much delay.

In cases of hernia there is danger in attempted reduction in that a general peritonitis may be produced, or if it is reduced the strangulation may still be present. Most authorities feel that it is a thing of the past and operation is much safer.

As to treatment, much depends on when the patient is seen. When seen early, operation should be done at once, releasing the obstruction, and if there is no evidence of gangrene or distention that may be all that is necessary.

Because of a certain degree of dehydration this should be combatted by the use of saline solution subcutaneously or intravenously as indicated by the condition. We have evidence to show that there is a hypochloremia in certain cases and that after it reaches a certain level it is difficult to reestablish its former balance. We know also that by use of such a solution you can prevent the hypochloremia and so-called alkalosis. This means not only a better circulation but better excretory function.

Starvation is a second factor, especially in the higher obstruction. This may be partially combated by glucose solution given subcutaneously or intravenously. This may be given as a 3 per cent solution subcutaneously or 10 per cent solution intravenously.

The toxemia may be relieved by release of the obstruction or, where for some reason this cannot be done, by drainage of the bowel. The latter is usually done by drainage of the jejunum. Because of the marked results, especially in patients with marked distention, McKinnon feels that the whole picture is due to pressure and not toxic. He feels that the cyanosis, rapid heart, and shallow respiratory movements are due to the pressure of the distended abdominal contents upon the diaphragm and thoracic contents. In two such cases reported there was such marked relief in a short time that he felt the result was too rapid to be of a toxic origin.

We also know there is evidence to show that the intestinal contents are toxic. The exact cause is not known nor is the mode of absorption known. Most authorities feel that absorption does not take place with the mucosa intact, but when there is a change due to lack of blood supply, absorption increases. This may occur in two ways: First, from the constriction causing the strangulation; second, as a result of distention. There is evidence to show that with increasing distention due to gas and intestinal contents the circulation of the bowel wall is disturbed, which first makes its appearance along the anti-mesenteric margin, where the vessels anastomose. So, with changes which may later result in gangrene, we have absorption and peritonitis following.

This is another reason for drainage of the bowel, which is best accomplished by jejunostomy. So, in the more severe cases, it is better to do this alone in order to restore both the general and local circulation as well as eliminate the toxic material from the bowel. After improvement from such a procedure the cause can be attack.

Jejunostomy may also be used where the cause has been relieved and the bowel above is found distended. Often there is discoloration of the wall but not sufficient to indicate removal. With a complemental jejunostomy distention with pressure can be avoided and permit entire recovery of circulation in this area.

Obstruction may occur after operation on the third to fourth day, where jejunostomy is of value.

The procedure itself is not difficult. It should be done under local anesthesia. Ether anesthesia produces temporary paralysis of the intestine. It has also been shown that ether anesthesia makes animals more susceptible to the effects of histamin. An unanesthetized dog can tolerate ten times the amount that one under the influence of ether can. This may have a similar effect in the case of man, and the increased absorption be the cause of death.

The treatment of the local condition depends on the cause and the amount of bowel damage. Intussusceptions if seen early may be released; the same applies to hernia. When these conditions are seen late it usually means resection. This may not be possible at the time, but this portion can at least be brought out of the abdominal wall.

In summary, such a condition should be diagnosed early, followed by early operation.

Cathartics and sedatives should be avoided.

Dehydration and starvation should be combated by free use of normal saline and glucose subcutaneously and intravenously.

The circulatory disturbance both general and local should be combated by intestinal drainage per jejunum.

The local obstruction relieved at once in early cases, in late ones bowel drainage first, followed by release of obstruction upon return of the circulatory balance.

DISCUSSION

MAX EMMERT, M. D., (Omaha): Mr. Chairman and Members of the Society: This symposium has been so ably covered that it leaves very little for the discussant except possibly to emphasize some of the salient points which may direct attention to a differential diagnosis.

In regard to the appendix, there are a few things I wish to mention. Clinically I think we could divide it into the inflammatory and gangrenous type. The first is well known. The second is the most deceptive type we have. A gangrenous appendix may occur without rise of temperature, increase of pulse or leukocytes. There is one symptom by which it is distinguishable, and that is a definite involved pain—tenderness over the appendix out of proportion to the other clinical symptoms.

In the examination of acute abdomens, the patient should be rolled to the left side and examined from behind the cecum in order to pick up a retro-cecal appendix. The pressure on the descending colon forces gas into the inflamed cecum and produces pain on the right side.

Acute appendices occurring in people over fifty are in a large number of cases gangrenous, and should not be neglected because of the absence of the outstanding symptoms. Dr. Kennedy of the Price Hospital of Philadelphia has called attenion to the fact if perforation of an acute appendix takes place at the juncture of the appendix and cecum, there is a rigidity of the abdominal walls which simulates the perforation of an abdominal ulcer.

In regard to acute gallbladders, I do not believe a perforation in acute gallbladder ever occurs. It is the result of an old subacute condition, with acute exacerbation.

I am glad to note the conservatism of Dr. Brown in operative procedure upon the gallbladder. I am in accord with him that acute gallbladder is not an operative procedure. The only instance I can think of with relation to an early operation upon the gallbladder is empyema of the gallbladder which is not receding.

Acute gallbladder disease may be divided into the inflammatory and the obstructive type. In certain cases these acute gallbladders closely simulate an intestinal obstruction. However, as a rule, diagnosis can be made by localized tenderness over the gallbladder region. I wish to suggest possibly we are overlooking many cases of acute hepatitis and calling it acute gallbladder. A little point in the diagnosis of acute gallbladder is placing the patient in one of two positions—on the left side which throws the liver out and allows easier access to the gallbladder region so that tenderness is easily discernible; or placing the patient in a sitting position and make the pressure over the gallbladder region. Sometimes it can be diagnosed in this position better than by a diagnosis in the prone position.

One classical point is the restlessness of the patient. He is moving around trying to find an easy position. That is an outstanding point of acute gallbladder which also simulates the restlessness of intestinal obstruction, contrasted with the practical immobility of the patient with perforated duodenal ulcer.

Vomiting is an outstanding symptom of acute gallbladder disease. There is a differential point. In the acute appendix, the vomiting comes several hours after the initial pain. With acute gallbladder, it starts almost immediately with the onset of pain. That point is of interest. There is much more vomiting with gallstones than with acute infection of the gallbladder.

The acute pelvis was very ably covered. The inflammatory division by Dr. Hustead requires a little comment. The previous history is an outstanding point. I wish to call attention to the appendicitis which develops from the acute type when the appendix is hanging in the pelvis. Oftentimes in those cases we get the combination of a pelvic condition plus appendicitis. One differential point between right sided pelvic infection and appendicitis is the small amount or absence of rigidity with pelvic infection.

With respect to ruptured tubal pregnancy, the attack comes six to eight weeks after the last menstrual period. Another thing is ruptured tubal pregnancy creates a shock equal to only two other conditions—practically only one: An acute pancreatitis. The patient is oftentimes in collapse. We should remember with the ruptured tubal pregnancy the mass is never felt through the abdominal wall. The diagnosis is made by history, plus vaginal examination, where tenderness is felt under one or the other side of the cervix in Douglas' pouch.

Perforation of the stomach and duodenum is a big subject, and was so ably covered it leaves little to comment upon. There is one point to remember. Ulcer of the stomach is a comparatively rare disease. As pointed out by Dr. Summers, ulcer of the duodenum is comparatively common. The vast majority of ulcers of the stomach occur in women around twenty. Another point relative to ulcer of the duodenum is that the perforation may occur in men who have given no previous digestive symptoms, usually in the older men. Sometimes the only symptom has been a rather persistent constipation.

With respect to diagnosis of ulcer of the stomach, we should remember as a rule the perforation occurs after one of two conditions: After a full meal, or an extreme muscular effort on the part of the patient.

The history is most important. If we can get the preceding history, it draws attention to the part of the abdomen causing the acute onset. The onset is without warning: Perforation of ulcer, obstruction from strangulation, acute pancreatitis, ruptured tubal pregnancy. The patient is restless: Gallbladder, appendix, intestinal obstruction, pelvic obstruction. Patient is conscious, but quiet: perforated ulcer, ruptured tubal pregnancy. A retracted abdomen calls attention to an early perforated ulcer. A distended abdomen suggests appendicitis. It is important in the following facts: (1) Character of onset as stated by the patient; (2) localization of the initial pain by the patient; (3) the degree of shock; (4) time elapsed from the onset until time of examination by the physician; (5) points of rigidity of abdominal walls.

C. R. KENNEDY, M. D., (Omaha): The acute abdomen is the most important thing we have to deal with. I think our biggest mistake is waiting for all these symptoms before opening it. In all symptoms, the earliest are pain, nausea, vomiting, and constipation. These themselves, barring ordinary conditions which we can diagnose, are usually indications for operation. In my work, it is a great disappointment to have bowel obstructions deferred forty-eight hours after onset, when nobody can do anything for them.

I have had three cases of intussusception referred through the state in time for operation. All the other cases I have had were referred through the pediatricians who knew when the baby was not doing well, there was something radically wrong. If we can diagnose the acute abdomen, we diagnose a surgical condition. There is no medical treatment for it that I know of. Instead of spending so much time on the differentiating of these things, I would prefer we give a diagnosis of an acute abdomen and operate immediately.

The matter of appendicitis may be confused with stone in the ureter. I had a patient last week who had his appendix removed and came down with stone. It was a mistake, but not nearly so much as if he had had his ureter resected and had a ruptured appendix.

Another point is these patients look sick. When a bowel obstruction looks sick, he is sure to die. When you wait, you had better have the internist take care of him, because surgery does not do much good.

The doctors have covered the early part of the paper thoroughly. Take the matter of acute gallbladders. Personally, I take them out. They are good risks. They have a defence built up by their inflammation, and I expect them to get well. I can recall eight cases of acute cholecystitis with obstruction of the gallbladder and stone in the cystic duct and pus present. They all got well. They don't recur. The case is easier to operate then than two months later with adhesions and contraction of the ducts.

In the matter of intussusception in children, most of my experience comes from the pediatricians. They have ruled out the ordinary conditions before I see them. When the child is taken sick with abdominal pain, cramps, and possibly a little blood, there is no need of further symptomatology. In textbooks they tell you you find a sausage-shaped tumor. The tendency is to feel for it in the ileocecal region. Your cecum is up in the midline in the transverse colon. When you open the abdomen, the area is up high. They palpate for the cecum too low down.

With early diagnosis of intussusception, there is no difficulty of reducing it. Pull it apart and it is all done. There is a tendency to recurrence. I had a case operated four years ago which came back with recurrent intussusception. Of late I have been attaching the ileum to the cecum higher up so that it cannot get back in.

In the matter of pyloric stenosis, they are seen by the pediatricians. There is a loss of weight, vomiting and severe constipation. The matter of palpable tumor is of no consequence. If the child has persistent vomiting, unless he has some other lesion, he has obstruction at the pyloric. There is no bile in it. The tract is shut off. That is all that is necessary for diagnosis. Early operation gives you a very good result. In a series of twenty-eight case, I have had two deaths, which is better than we had under medical treatment. They were operated early. They should be handled by the pediatrician, because the surgeon does not know what to feed them. If they do not respond to medical treatment in forty-eight hours, I think they have obstruction. All had tumor at operation—quite small. The ordinary man is not able to palpate such a thing. I prefer early diagnosis and prompt operation rather than the opposite.

MEDICAL EDUCATION*

J. S. WELCH, M. D.,
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No field of education has made greater advance in the past twenty-five years than that of medicine. No one organization is more responsible for this than the American Medical Association. Because the Nebraska branch of this organization has for six years delegated me to the congress of the A. M. A. on medical education, I have selected this subject to talk about. Most of the thoughts here to be presented were gleaned at these council meetings. Certain others are my own ideas and conclusions gathered in the same period of years in practice and while contacting with many different teaching centers over the world. My purpose, therefore, is a review of medical education in the general and broader sense.

I will not review the "preceptor" days of earlier medical education in America. Many here remember them. These doctors remember even better the period following, when medical schools with high commercial value and low teaching force sprang up everywhere.

It was at this time, in the year 1901, that the governing body of our American Medical Association decided to use its influence to improve conditions if possible. Accordingly the first council on medical education was appointed. It took a couple of years to get organized and to formulate a policy of procedure. Since then its fields of endeavor have been many. Improvement of medical schools came early. Better cooperation among state boards of licensure followed. Inspections of hospitals for suitable internship service, rural distribution of doctors; public health, sanitation, and food control; better nursing, correct chemical analysis of pharmaceuticals, education of the public in all lines, as health examination, cancer control, eugenics, etc., etc., are a few of its many fields of endeavor.

MEDICAL SCHOOLS

In 1904 the council found 166 medical schools in the United States. There were a few good ones and many bad ones. Chicago, New York and St. Louis ranked first in numbers and inferior grades. The council was entirely without authority or power. Its whole armamentarium was the common sense and high mindedness of the members of the organization it represented. After the first survey a more thorough inspection, looking to an adequate rating was undertaken by Mr. Flexner through the support of the Carnegie Foundation. Twenty Eclectic schools and seven Homeopathic schools submitted to this inspection. Other evidences of cooperation came. The state boards of licensure in many states showed favorable interest. One of the early standards established was an average passing grade of 70 per cent. This beginning brought rapidly to a close or to a consolidation with a better institution many inferior schools. The movement met firm resistance in many places. Louisville, Kentucky, for example, had seven medical schools and when informed by the council that the inspector was coming they replied by wire to stay away, as he was not wanted. An immediate reply wire informed them the council's representatives would be there the next day. The result of that conference was the consolidation of the seven inferior schools into one good school. So by 1910 the total number of schools in the United States had dropped from 166 to 144.

By 1915 there were only 99 medical schools.

By 1920 there were only 86 medical schools.

By 1927 there were only 62 Class "A" medical schools, 3 Class "B" medical schools, and 6 Class "C" medical schools.

At present there are no eclectic and no homeopathic schools.

From the beginning of its work this council of the A. M. A. has had as its ideal two years pre-medical work, four years medical school work, and one year hospital work as required for graduation. This accomplishment has been sought through university affiliation, avoiding the loss of contact with the practicing medical profession. As you know, the hope has been largely accomplished. The pendulum has swung to and fro, in and out of dangerous territory many times. Witness thereto the tendency to all full-time teachers even in clinical branches and see how the pendulum has swung carefully back. Remember again how even a recent president of our A. M. A. opined that our advanced educational requirements were unfavorably influencing the distribution of rural practitioners.

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*Read before annual meeting Nebraska State Medical Association, Hastings, May 15-17, 1928.

Nebraska is a good state to investigate this, and the facts recently collected by Dr. F. A. Long are a factor in stabilizing our swinging pendulum. Naturally there is some unevenness in the distribution of doctors. There always has been and likely it will continue, but we do not concede that too much or improper medical education is a controlling factor.

In 1904, 166 medical schools graduated 5,700 students.

In 1918 (war time), 90 medical schools graduated 2500 students.

In 1928, 70 medical schools will graduate 4,300 students.

Most of these schools at present are well equipped and reasonably well financed. They are reasonably well distributed over the country. The Council believes that the number is sufficient unto the needs and that they are very capable of any necessary expansion in the immediate future. This year at the council meeting a paper was read on the subject of "An M. D. degree five years after high school," and it received no favorable comment.

Our medical schools are now on a par with the best in the world—Great Britain, France, Germany and Austria, and there is no justifiable call for lowering our standards. It is true that some medical schools have a rather long waiting list for registration. This may be due to several factors, such as environment, superior equipment, and unusual supply of clinical material, etc. For example, a superior medical school located near several large universities will naturally have many applicants. These become details of distribution, and are not a factor in the general policy of medical education.

THE FUTURE MEDICAL SCHOOL

Dr. A. D. Bevan, chairman of the Council, portrayed the future in his opening address this year. He said the task could not be left to the doctor alone. It is a joint task of the doctor, the community, and the university. There must be no cleavage. The university must furnish the teaching hospital, the campus and equipment, and the teachers of sciences. The community must furnish the patients and the funds, and the medical profession must furnish the clinicians who are permitted to keep touch with the sick. And while the university hospital is a teaching institution, it is primarily a place to care for the sick. Otherwise its patronage would cease and it would not be training the student for his future practice.

THE INTERNSHIP AND THE MODERN PRECEPTORSHIP

The Council's desire to have every medical student avail himself of a year's practice in a hospital under supervision, is fast being realized. In some states the law is not yet compatible with this requirement and the schools can not enforce it. In order that this requirement may be fulfilled without a loss to the student by bad hospital environment, the Council undertakes to inspect and rate every hospital desiring the attendance of such internes. Likewise most medical schools have a checking system of their own, all of which works to the general betterment of medical education. Some of the fundamental requirements of hospitals for internship eligibility are:

A bed capacity of 100 or more.
Sufficient modern physical equipment.
Records and histories of par grade.
Laboratories functioning adequately.
15% or more autopsies on all hospital deaths (some hospitals reach 95%).
Etc.

THE PRECEPTORSHIP

To the younger men here this may be a new term. To the oldest, a renewed term. At the Council Congress this year the university of Wisconsin reported a plan of clinical teaching being tried there for their juniors and seniors. It consists of sending to certain carefully selected hospitals and groups of practicing doctors, a number of students for actual practice experience. Their case histories and notes on all patients seen, form a part of their report to their dean for credit. Many of these students felt that this actual experience in the office of the preceptor, in the home of the patient and at the semi-private hospital in the environment of a private patient, was the most valuable work of their entire four years of medical school. Obviously, the preceptorship work will be limited, but it has possibilities of advantage not only to the student but to the preceptor. For what doctor has not learned to profit by contact with a senior medical student and his wonderful fund of scientific knowledge.

In this swing of the pendulum toward preceptorships, we see not only history repeating itself, but another aid to medical education and also something of a return of the dignity and honor so justly due the competent general practitioner.

GRADUATE TEACHING AND RESEARCH WORK

As never before and ever in an increasing variety of ways, can the advance student in medicine satisfy his ambitions. The number and the distribution of schools over the United States now offering such work is very satisfactory. Age, standardization, assured attendance and adequate financial support have called together efficient and interested teachers, proper equipment and the needed clinical facilities. Even the research workers' livelihood is often assured in a scholarship on part time teaching basis. He may select his task, varying from almost a pure science to a semi-social welfare work, or from a tropical parasitic disease to some ultra special surgical problem. Not infrequently also his showing in this special task locates him in his life work.

In the last Council meeting we were given a review of the development of such a place, viz., the Cleveland Medical Centre. Here in a few years the unheard of sum of thirty million dollars has been spent. It is the home of the Western Reserve Medical School. With such resources properly commanded in such environments, the continued advance of medical education in America seems positively assured.

POSTGRADUATE EDUCATION

In America the quality of post graduate education has lagged behind that of some foreign countries. I personally assign three chief reasons:

First, a relatively small number of student doctors have had to finance the school. It had to pay.

Second, the American independence of semi-charity and even charity patients has never permitted freedom of study of patients common in European clinics.

Third, there has been a great scarcity of dead-house work in America. The autopsy, the clinical pathological conference and the cadavera practice furnish the real trial balance. This teaching force can hardly be overestimated.

I feel that a solution is in sight. The larger universities have called liberally upon their alumni for big endowments and the medical departments share in this aid. They will most certainly reciprocate with their alumni. Next, there is an increasing number of charity patients and a better understanding on their part that detailed investigation by several doctors in teaching hospitals leads to superior treatment. Moreover, autopsies and other dead house studies so prevalent in Europe are rapidly increasing in America. In Minneapolis 19 per cent of all deaths were followed by autopsy last year; 15 per cent of these were permission posts.

Foreign post graduate work may still hold to some degree an advantage in these lines, but no longer are they superior in physical equipment, in research environment, in resources or in teaching staff.

Many doctors go to foreign countries, especially to Europe, in a capacity which might be called tourist students. The itinerary of such tours usually originates with some transportation company and enroute the doctor looks in upon numerous medical clinics. They are primarily sight seeing excursions, with an invigorating splash of things medical and are rare intellectual treats, but not primarily post-graduate study tours. If you are young and still a student, plan to stay in Europe a year or more. If older, and wanting only limited work, go by pre-arrangement to one of the universities—perhaps a smaller one less frequented by Americans—and get quickly into your chosen work. Every student will get far more if he understands well and speaks fairly well their language. If you do not, select carefully those places where postgraduate work is planned for Americans. If your stay is to be short and you understand their language poorly, I believe Vienna is still the best place to go. You can get busy quicker and keep more constantly at some profitable task, even if elementary or review, than elsewhere. If you are simply wanting to see operations, you will profit more to stay at home and go to one of several big surgical clinics.

But let me remind you that these large schools and foreign medical centers are not the only sources of post graduate value. Every doctor has at his nearer command excellent and practical postgraduate possibilities. Your county, district and state medical society meetings have possibilities of high potentialities. If you doubt this, I predict you are so inactive that you do not even keep yourself in a receptive mood. I am frequently surprised at the teaching force of a Lancaster County Medical Society meeting. We frequently bring outside guests and even paid talent and find it very much worth while.

Again, if you belong to a hospital staff, miss no meeting unnecessarily and dig into the case reports and discussion as you used to a class lecture. Clinical-pathological reports are of the greatest teaching force. This necessitates getting autopsies on your private cases which die, and if no hospitals are available to you, transfer the clinical-pathological reports to your county society meeting. You will surprise yourself at the interest created.

It requires courage, to ask for a post mortem and defend successfully the justification of your request. This is especially true in the grief stricken home. At the last Council meeting an entire half day was given over to a symposium on autopsies. I have tried to reflect the best arguments for autopsies in an editorial recently given to our Medical Journal, and obviously can not repeat that here.

If you are isolated and must work alone, at least remain a student to the degree that you read standard medical literature such as your state and national journal.

MEDICAL EDUCATION IN OTHER FOREIGN COUNTRIES

My contacts were made in the clinics of the Pacific islands and the Orient in the capacity of a visiting tourist, and my impressions are given as such. Post graduate work would be valuable there largely in the study of certain diseases and conditions peculiar to their location. Certain tropical diseases so prevalent in the Philippine Islands, Java and India. Stone of the urinary bladder, so common in Siam. Cataract and other eye diseases so common in India might be profitably studied there in the largest eye clinic in the world. To make such studies one would contact with medical schools or institutes controlled by Dutch government in Java, the United States in the Philippine Islands, the British government in India and China, the Rockefeller Institute and certain Christian missionary schools in similar countries, and the Japanese schools in Japan and Manchuria.

Undergraduate medicine is taught to the natives very largely under the supervision of these same organizations. There are many difficulties, many lapses, many miscarriages of purpose and many failures. These are due to the high degree of illiteracy (96% in all India), to the superstition, to the casts and antagonistic religions, etc., etc. The Japanese succeed best because of less illiteracy there. The Jap is ever alert and anxious to learn. You see him in every post graduate medical center in the world. The internes and resident doctors in Japan command three languages and in the surgical clinics which I visited the histories of all cases operated were written in Japanese, English and German. I was informed this was considered necessary since so many of their advanced students finished their medical education in English and German speaking clinics.

MEDICAL EDUCATION CONTACTS WITH THE PUBLIC

The strength and existence of any nation depends upon the health of its people. The emanation of medical truths to the public and the control of the sources of such teachings becomes therefore a most important part of medical education. There are many such contacts made with the public and the uninformed layman differentiates with much difficulty between the true and the false. Your Council has done many things to assist him.

The Public Press. Through influence exerted with central newspaper organizations as well as independent editors, some of the evil has ceased. Constructive health talks are now prevalent. Special health literature such as *Hygeia* is written for the layman. Some of you were called upon this year to deal with your local editors concerning cancer control work. This very meeting is being carefully and truthfully reported to the press and when the press gets the altruistic viewpoint of scientific medicine, cooperation is usually forthcoming.

The Public School. Here a great constructive health teaching force is exerted today. It appears under health examinations, control of communicable diseases, care of the body from teeth to toe nails, rest periods, fresh air and sunshine, special feedings, constructive gymnastics, etc., etc.

Many, many other sources from which medical education emanates, could be discussed:

The modern standard hospital.
The Public Health departments—national, state, municipal.
The Army and Navy.
The Red Cross.
The Scouts and Camp-fire Girls and similar organizations.
Our allied professions—dentists, nurses, etc.

PROFESSIONAL NURSE SURVEY

This year the Council gave special attention to a survey of the nursing profession, and this analysis revealed some interesting facts and needs.

Since 1880, when the number of nurses graduated was almost 0 in U. S. A., there has been a rapid increase to 18,000 graduates in 1926. A questionnaire letter sent to 296 different communities asking if they needed more nurses, revealed that 281 had enough and 14 only wanted more. The natural conclusion was that the supply equalled the demand and further effort should be on quality, not quantity.

The survey further revealed that the profession classifies itself into three groups:

1. Public Health nurse.
2. Institutional and teaching nurse.
3. Private nurse.

All of these must pass the state board requirements. None can qualify for the first two classes thereafter without satisfying also a special group of examiners. This assures quality for class "A" and "B" but sifts out all the inferior nurses for private duty ranks. Here they are largely without supervision and often become a poor credit to the profession. The survey committee offered two solutions to this problem:

1. More careful selection of pupil nurses as to previous training and home discipline, and an earlier characterization of the type of professional nurse the pupil will produce.

2. An attempt by the nurses profession itself to classify its members on a basis of general and special ability. This would require the cooperation of the membership, the registries and hospitals. It is comparable to the classification of the doctors into general practitioners and specialists. It looks forward to a time when you may call your nurses registrar and get the special nursing service you need for the special and critically ill patient you have. When you can call the registrar and get a general nursing service, when all you need is to relieve a tired mother in the care of a convalescent baby. Such a classification could likewise prorate the expense.

The survey was constructive in a medical education sense and justified the following conclusion: That the nurses profession needs a house cleaning within its own ranks today much as the medical did twenty-five years ago; that it should keep out more undesirable matriculants; that it should attempt a classification of the general and special abilities of its private practitioners through its own membership and helpful agencies. They earnestly solicit the assistance of the medical profession in the furtherance of this work.

Finally, I want to mention and compliment our own Public Activities Committee on its work. Dr. E. R. Hayes is a most interested, active, and able chairman and he is seeking to contact intelligently with the public. He has given much of his time and often of his own means, and deserves our individual and collective support.

Thus I have attempted this review, doubting the interest it could arouse in you as given in this abstract and very incoherent way. There is much of value occuring in these Council meetings which should be gotten over to the membership, and I appreciate my inability to well accomplish it. I wish to take this opportunity to thank again the Association for the honor in the appointment and the privilege I enjoy in attending these Council meetings.

CONSTITUTION AND DISEASE*

A. M. SONNELAND, M. D.,
Norfolk, Nebr.

The remarkable skill in diagnosis of disease possessed by many of the older physicians has often been discounted by the younger doctor who depends largely on modern scientific procedures.

With the growth of definite accurate knowledge concerning constitution in relation to disease, we are coming to giving increasing respect to that keen observation, ability and intuition which enabled them to evaluate signs, family tendencies, habits and bodily formation as indications and predisposing factors of definite disease groups.

A criticism of the modern school of medicine is sometimes made (perhaps not fairly) that the students are taught to think of the patient only in terms of disease, not considering what the original health potentiality of the person has been.

Sir Arthur Keith(1) defines constitution as the linking up of the machinery of growth, the machinery which gives the human body its shape, texture and constitution, with its liability to disorder, that is disease.

The morphological pattern of the individual has been considered in the diagnosis of disease since Hippocrates, who recorded the facts that many fat women were sterile and had menstrual disorders.

Oppenheim(2), twenty-five years ago, from observation, noticed that many persons with psychic disturbances, possessed asymmetrical heads and faces, odd shaped ears, excessive jutting out of the maxillary region, and protrusion of the lower teeth. He named them signs of degeneration.

Addison(3), in his studies of the disease bearing his name, and also of pernicious anemia, frequently referred to the constitutional make-up of these persons.

Status lymphaticus has been observed by Emerson(4) at Bellevue Hospital. He found on examination of 1000 cases of male criminals, 22% represented this disease at autopsy. When judged by constitutional make-up, they were found to have finely shaped bodies, smooth velvety skin and a tendency toward femaleness in the distribution of hair, body contours, small sized genital organs and frequently possessed the psychic pattern of the opposite sex.

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*Read before annual meeting Nebraska State Medical Association, Hastings, May 15-17, 1928.

It was noticed in the great poliomyelitis epidemic in 1916 by Draper(5) of New York that there was a striking similarity of the children seriously afflicted. They were usually large, often plump, with broad rounded faces, and 50% to 60% possessed widely spaced teeth and gave a history of having had abnormal dentition.

Another striking observation revealed that most of the parents of these children possessed unusual anthropological markings; one was acromegalic, two were Frolich patterns with dark hair, fat faces, narrow shoulders, broad hips and "knock knees"; in three others, maxillary prognathism was marked, and although the body stature was small, the hands were very large and broad, and there was great physical strength. The above facts might indicate that there was a family susceptibility, because often three, four or five cases were found in the same family, while Frost(6) found that of 2070 persons exposed, about 6/10% acquired the disease from exposure.

It is significant, that adult cases of poliomyelitis were opposite in type to children affected with the same disease. They were usually brunettes, had moles, and skin pigmentations, highly colored cheeks and lips, and had finely chiseled maxillary prognathism with teeth crowded together, and were generally of a delicately made body type.

In 1900, Nacke(7) reported the anthropometric study of a series of cases having paresis. He found that the long necked, lanky, narrow chested, hatchet faced asthenic type were predisposed to tabes, and the short, thick-set, round headed, low thyroid had a constitutional tendency toward paresis.

In 1800, Blumenbach(8) of Germany first classified skulls according to form and measurement.

Later Retzius devised the cephalic index, and finally the French anthropometrists Broca and Topinard systematized the subject.

In this country, Draper, Wilder, Stockard and Mills have contributed most to the study of constitution. Draper(9) has divided the subject into four panels, the anatomic, the physiologic, the psychologic and the immunologic. In the anatomic studies, anthropometrics, or body measurements have been used by him in the study and classification of pernicious anemia, cholelithiasis, asthma (of known protein sensitization), nephritis and hypertension and tuberculosis.

The study of about 300 individuals proved that the bony measurements of the disease groups are very similar. An example of similarity was shown in the instance of three cases of perforated gastric ulcer; one man was an Anglo-Saxon, another was Italian and the other a native of Poland. Their final measurements and proportions were almost superimposable.

Sex influence is a constitutional factor in disease as shown for example, by the occurance of gallbladder disease three or four times more frequently in women than in men, while in gastric and duodenal ulcer, the reverse holds. The male gallbladder patient shows a tendency toward femaleness, usually being fat and of the avirile type both in body type and psychic pattern. The bony measurements in many of them are quite similar to the measurements of the female.

A girl fourteen years of age was classified by observation as of precocious sex development. The diagnosis was made because of the apparent shortness of the lower extremities and the length of the trunk, the body contours and fully developed breasts. The crest of the ilium was located, and she was found to be a "short waisted type", instead of the "long waisted type" and the error of the eye was found at once on measuring the bony points with the anthropometer. Instead of the short legged, early developed form, the patient proved actually to be the long legged eunochoidal type—the breasts were entirely fat tissue.

For this reason, you will see an accurate scientific technique is essential in this type of diagnosis.

Draper(10) has devised systems of accurate measurements which may be used to classify several diseases by comparison to the type chart.

He has found that an individual having a subcostal angle between 24 and 55 degrees, for example, has an 80% chance of being a member of either the tuberculosis or ulcer groups; between the angles 55 and 75 degrees, he enters the nephritis hypertension or gallbladder susceptible groups; while with a subcostal angle larger than 75 degrees, his chance of being a member of the pernicious anemia race steadily increases.

Other anthropometric values may be determined, and it seems to me that possibly a pretubercular or gastric ulcer constitution can be ascertained and the proper prophylaxis taken.

A diagnosis of pernicious anemia can be made quite exactly by the blood picture with the microscope, but no one is able to predetermine the potentiality of the disease in advance; therefore, I think that if an individual with bony measurements fits into the pernicious anemia group, it would be valuable for him to know it, in order that he might be advised about his prophylactic, dietetic, and habit conditions, as we do with the prediabetic person, when we find his blood sugar ranging above one-tenth or two-tenths per cent.

As more experience is gained on this subject, it seems that the number of diseases identified by these methods will increase and the science of physical diagnosis will be still more exact.

In conclusion:

1. A method is cited for studying and charting the anatomic pattern of an individual.
2. There are demonstrable physical differences between many of the major diseases, which can be shown by actual body measurements.
3. Members of a sex who develop diseases more common to the opposite sex show characters of incomplete differentiation toward their own sex.
4. An individual classified as to disease potentiality may be advised of prophylactic measures.

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FOREIGN BODIES IN THE OESOPHAGUS AND IN THE AIR PASSAGES

B. M. KULLY, M. D.,
Omaha, Nebr.

Foreign bodies taken into the mouth may lodge in the mouth, pharynx, tonsils, pyriform sinus, hypopharynx, oesophagus, stomach, intestinal tract, larynx, trachea, bronchi, nose or nasopharynx, or may have been passed by bowel, or coughed out with or without the patient's knowledge. The responsibility of determining the presence and location of a foreign body rests with the physician. This cannot be too strongly emphasized. That the general medical profession is not sufficiently alert to this subject is evidenced by the frequency with which foreign bodies are permitted to remain for relatively long intervals without proper diagnosis or treatment. In a series of forty-five foreign bodies that have come under my observation, there were fifteen foreign bodies that had remained in the body for longer than a week, one foreign body for a month, one for three months, one for three years and one for five years. The history of the five year case is instructive.

The patient, aged 52, consulted me in September, 1926. He gave a history of having had a choking paroxysm while eating a mutton chop five years previously. This was followed by an almost constant hacking cough, a marked loss of weight, the patient having lost sixty pounds in the past three years, and a foetid odor to the breath.

The history and the foetid odor should have been sufficient to have established the diagnosis. Nevertheless, of a number of physicians this patient consulted, none advised bronchoscopy. Bronchoscopic investigation revealed a rather large piece of mutton bone in the right main bronchus. Removal was followed by rapid subsidance of symptoms. The case is cited, not because it is typical, but because it illustrates that there is still considerable confusion on the subject.

In six of my cases, the parents were advised to watch the stools for the foreign bodies when the foreign body was either nestling in a bronchus or impacted in the oesophagus.

SYMPTOMS OF OESOPHAGEAL FOREIGN BODIES

Foreign bodies in the oesophagus may give rise to no symptoms. Varying degrees of dysphagia are usually present, however, ranging from a slight obstruction on swallowing solids to a complete oesophageal obstruction. The sensation of a foreign body being present is usually a prominent symptom. This is not reliable, however, as it may be present long after the foreign body has been removed or has passed into the stomach. There may be choking paroxysms with oesophageal foreign bodies, due to overflow of secretions or food into the larynx where the oesophageal obstruction is marked.

Sooner or later, an unremoved oesophageal foreign body produces an oesophagitis. The difficulty in swallowing becomes more pronounced. Dyspnoea, due to laryngeal oedema may ensue, especially when a foreign body is high and pressing on the posterior laryngeal wall. The dyspnoea may be extreme. Perforation into the trachea, the mediastinum, the pleural cavities and into the aorta may occur. Jackson has recently reported an emyema following an oesophageal perforation due to an unremoved coin. The prognosis of an unremoved oesophageal foreign body is invariably fatal.

The following case illustrates the occasional exceptional tolerance that an oesophagus will exhibit. A. G., aged 2½, admitted to Lord Lister Hospital, March 13th, 1923. This child swallowed a large pearl button one year ago. With the exception of a slight dysphagia the first day, the baby had been symptom free until twenty-four hours before admission, when a complete oesophageal obstruction occurred. Neither liquids nor solids could be swallowed. Roentgen examination failed to reveal a foreign body. Examination with the oesophagescope revealed a semilunar shaped segment of a pearl button impacted across the lumen at the cardia. Removal was followed by immediate subsidance of symptoms. This case represents a cardiospasm, due to the irritation of a sharp foreign body.

SYMPTOMS OF FOREIGN BODIES IN THE AIR PASSAGES

The entrance of a foreign body into the larynx or tracheo-bronchial tree is always characterized by a severe coughing and choking paroxysm. If the foreign body remains in the larynx, hoarseness and dyspnoea quickly ensue. Cases have been reported where foreign bodies have remained in the larynx for long intervals without serious symptoms. Such cases have not come under my observation, however.

All of my laryngeal foreign bodies were characterized by severe increasing hoarseness and dyspnoea, on two occasions requiring emergency tracheotomies. The condition is apt to be confounded with laryngeal diphtheria, particularly in the absence of a foreign body history. I wish to cite the following case:

E. S., age 2, admitted to St. Joseph's Hospital, September 1st, 1922, in intense dyspnoea. He gave a history of an increasing hoarseness and dyspnoea of seven days' duration. He had been treated for laryngeal diphtheria and had been given antitoxin, intravenously and intramuscularly. Direct laryngoscopy revealed a markedly swollen larynx with a fragment of egg shell between and beneath the vocal cords. The egg shell was removed and intubation by the direct method immediately after the laryngoscopy, was performed. The tube was removed on the fourth day. Further progress uneventful. There was no history of foreign body inhalation in this case.

Foreign bodies in the trachea are usually movable and the movements can be felt, both by the patient and by the examiner's hand. Sudden closure, during an expiratory coughing paroxysm has been described by Jackson and is pathognomic of tracheal foreign bodies. It results from the laryngeal spasm caused by the impaction of the foreign body against the larynx. The thud of this can sometimes be felt and heard. In addition, an asthmatoid wheeze is nearly always present.

Baby F. H., 10 months, admitted to St. Catherine's Hospital, August 8th, 1923. No history of inhalation of foreign body. For past three weeks, has had repeated paroxysms of coughing, associated with sudden obstruction and cyanosis. On physical examination, the movements of a foreign body in the trachea could be detected. The coughing paroxysms were associated with expiratory closure and cyanosis. Bronchoscopy revealed a watermelon seed in the trachea. Removal, recovery.

Foreign bodies in the bronchi may give rise to very urgent symptoms requiring immediate bronchoscopic removal or may have prolonged symptom free intervals. In one of my cases, both bronchi were completely obstructed by multiple fragments of peanuts, resulting in intense dyspnoea, not relieved by an emergency tracheotomy. Immediate bronchoscopic removal was necessitated as a life saving measure.

In another case, the presence of a brass tack in the lung was accidentally discovered during a Roentgen examination to determine possible rib fracture sustained in a pole vaulting injury. Upon questioning, the patient remembered having swallowed a brass tack three years previously. Between these two extremes, however, there may be a variety of symptoms and conditions. Organic foreign bodies quickly give evidence of their presence, particularly nut kernels, articles of food, etc. A diffuse purulent tracheobronchitis usually ensues. If one bronchus is obstructed completely, the lung beneath the obstructed point becomes atalectatic. If the obstruction is due to egress of air and not to the intake as frequently occurs when the foreign body acts as a valve, the affected lung area becomes emphasematous. In any event, pulmonary suppuration is the ultimate price of an unremoved foreign body in the bronchus. The length of symptom free interval, the rapidity of onset, and the severity of constitutional symptoms may vary according to the type of foreign body and to its location but the end result is inevitable.

The rational treatment of foreign bodies lodged in the oesophagus or in the air passages is, of course, endoscopic removal. To attempt to push an oesophageal foreign body into the stomach by means of a tube or bougie is to needlessly risk oesophageal perforation. To attempt to remove a movable tracheal or bronchial foreign body by inverting the patient may cause the foreign body to lodge in the larynx and cause death by asphyxia. While it is true that a certain number of foreign bodies may be coughed up from the air passages, the delay in waiting increases the difficulty of removal and the possibility of pulmonary suppuration. A fibrous or oedematous stricture above the foreign body is the rule and is usually sufficient to prevent spontaneous expulsion.

INDICATIONS FOR ENDOSCOPIC INVESTIGATION

Every foreign body taken into the mouth must be accounted for. If there is the slightest obstruction to swallowing, investigation with the oesophagoscope is indicated. The sensation of a foreign body being present is sufficient indication for endoscopic examination. This sensation resulted in the recovery of a sewing needle from the oesophagus without the history of a foreign body having been swallowed. Foreign bodies traced to the stomach may be again lodged in the oesophagus from a vomiting spell as occurred in two of my cases.

The history of a choking paroxysm indicates thorough investigation of the tracheobronchial tree to determine the possibility of a foreign body. If associated with this history there are lung symptoms, signs of tracheal or bronchial obstruction, suspicious radiographic shadows in the line of the trachea or bronchi, or purulent expectoration, with or without odor, the indications for bronchoscopy are absolute.

In addition to these indications, are cases of bronchiectasis and lung abscess should be bronchoscoped to rule out the possibility of a foreign body. Persistent lung findings that cannot be clearly explained on definite pathological bases should be similarly treated.

When in doubt, it is far better to err on the side of safety. There is little or no danger in a carefully conducted bronchoscopic or oesophaguscopic examination. A more widespread knowledge of the indications will result in a lessening of the number of serious pulmonary and oesophageal complications.

—1316 Medical Arts Building.

SIXTIETH ANNUAL SESSION NEBRASKA STATE MEDICAL ASSOCIATION, HASTINGS, MAY 15-17, 1928

TUESDAY MORNING SESSION

May 15, 1928

The Sixtieth Annual Convention of the Nebraska State Medical Association met at the Municipal Auditorium at Hastings, Nebraska, on Tuesday morning, May 15, 1928, with Dr. James B. Beghtol, of Hastings, presiding.

CHAIRMAN BEGHTOL: We will open the session with prayer by Reverend Newell.

INVOCATION

Rev. George E. Newell, Hastings, Nebraska.

O God, we recognize Thee as our heavenly Father. Thou art the God of all power and might and wisdom. Thou art our Father and we are Thy children. Thou hast told us whatsoever we ask in Thy name, that will we receive.

We ask Thy divine blessing upon this convention and these men who have come here for it. We pray it may be a time of helpfulness, and out of it there may come issues that shall make for greater efficiency in the serving of sickness and disease, and the carrying out of Thy will.

We ask it in God's holy name. Amen.

Chairman Beghtol: It is rather customary upon such occasions for the Mayor to produce a Welcome Address. I do not think he will have any keys to give you, but he will speak to you for a few minutes about Hastings and our aims and hopes. I now introduce Mayor Nelson.

ADDRESS OF WELCOME

Hon. William M. Nelson, Mayor, Hastings, Nebraska.

Dr. Beghtol and Members of the Nebraska State Medical Association: I am sure that it is a great pleasure on my part, as head of the city, to welcome you here today. You are here at our invitation. You are our guests during this convention.

It has been my good fortune for a number of years past to have quite a little to do with some of the medical profession. I was in the drug business for fourteen years in our neighboring town of Minden. I will say some of the very dearest friends I ever had are among the medical profession. I learned to know them intimately in some respects, and I enjoyed their friendship.

You are here for a purpose. You are just human like the rest of us. We find after the usual drudgery of business as we perform it from day to day, that a few days' recreation or change is essential. That is what you advocate. I know it will do you a lot of good. You will go back home with many ideas you can use in your own community. You will feel better and you will enjoy life all the more.

We are proud of our little city. For the information of a good many who do not know us as well as some who live close to us, we like to speak of the good things we have in Hastings.

I think of a story about two men from Topeka, who happened to be on a train in New York State. They were telling about the good things of Topeka. They told of the schools and banks and everything under the sun. One man listened very attentively. After they got through, he said, "You must have a wonderful little city out there, but there is one thing you lack. You lack a seaport, but I will tell you how you can get it. Just run a six inch main from the Gulf of Mexico to Topeka, and if you can suck half as hard as you can blow, you will have a seaport in thirty minutes." (Laughter.)

I should like to tell a lot of good things about our little city.

Last week we had a state convention of the Lions' Club, and I told them we did not have the keys. The delegates to a former convention carried away the keys, but our doors are not locked. You are welcome to come and go as you please. We want these local doctors to take good care of you.

Dr. Beghtol is our city physician. He has a lot of problems to contend with. We have had quite a little scarlet fever epidemic here. We get a lot of bouquets handed to us. You know that. It is very pleasant at times. After it is said and done, we come out with a smile and feel we have done the best we could.

Again let me extend to you a most cordial welcome. We hope this will not be the only time you will hold your convention in Hastings.

Chairman Beghtol: We have been working during the last six months to perfect all arrangements for your comfort and happiness and pleasure. You have prepared a splendid program and we believe we have prepared a good social program. I hope nothing will interfere to mar that.

Our President will respond to the Mayor's address.

RESPONSE

B. R. McGrath, M. D., President Nebraska State Medical Association, Grand Island, Nebraska.

Since the Mayor has left the room, I do not have a chance to respond to him.

It has been my good fortune to go to a number of medical meetings where I happened to drum up interest in this meeting at Hastings. I had the literature of the Hastings Chamber of Commerce. I was so enthusiastic about it, in spite of the fact I am a resident of a rival city across the Platte, I almost convinced myself Hastings was the best city of Nebraska. I fear I shall have to have an interview with our own Secretary of the Chamber of Commerce, after this meeting is over, to get back to the proper spirit in regard to the merits of these two cities which are almost the same size.

I am sure Hastings will provide a wonderful welcome for us this week. However, it will be best not to dismiss their police force because, whether they know it or not, there are a lot of medical men who need watching, and it would not be wise to do without protection. I notice there are some of the medical profession who are determined to talk to the ladies without being introduced. They are not acquainted with them at all.

We know that we shall be well entertained.

HOUSE OF DELEGATES: FIRST SESSION.

Auditorium,Hastings, Nebraska, Tuesday, May 15, 1928. 12:30 p. m.

The House of Delegates was called to order by President, Dr. B. R. McGrath. Roll call by Secretary Adams showed 41 members present.

Then followed the regular order of business.

Motion made that since the minutes of the 1927 session had been published that the reading of them be dispensed with. Seconded and carried.

Nominees for the office of president pro tem were called for. Drs. B. F. Bailey, J. M. Patton, and Lucien Stark were nominated for president pro tem.

Drs. Bailey and Patton withdrew their names.

Motion made that the nominations be closed. Seconded and carried.

Dr. Stark was unanimously elected president pro tem.

Report of the Council was called for.

Motion made that since the report of the Council for 1927 had been published that the reading of it be dispensed with and that it be adopted. Seconded and carried.

Report of the State Fair Committee called for, and also the report of the Public Activities Committee.

Motion made that these reports be received and such portion as judged expedient by Dr. Hays, be published in the Journal. Seconded and carried.

The report of the Committee on Public Policy and Legislation was called for.

Dr. Bailey gave his report.

Three things he would emphasize:

1. A movement is taking place in the state on the part of the Chiropractors and allied bodies working for the removal from the statutes of Nebraska every law controlling the practice of the healing art.

2. That there will undoubtedly be an attempt to take the Basic Science Law from the books. He believes that this law should be amended so as to avoid any future conflict concerning reciprocity with other states. It is not intended that these relations be disturbed.

3. The fact that all through the State of Nebraska and all over the U. S. and every State in the Union lay organizations are coming to the point of taking over medical work, going toward the possibility of state medicine and we must be ready to defend ourselves.

Next Dr. Bailey read the report of the Committee that conferred with the officers of the Manufacturers' Association.

Motion made that these reports be accepted and published in the Journal. Seconded and carried.

The report of the Committee on Journal and Publication was called for.

Dr. Long read his report.

Motion made that this report be accepted and the committee be complimented and a recommendation made that the Council allow the appropriation. Seconded and carried.

The report of the Committee on Care and Prevention of Contagious Diseases was called for.

Dr. Hamilton wrote that he had nothing further to report in addition to his January report to the Council.

The report of the Campaign Committee was called for.

Dr. Hohlen read his report.

A motion was made that this report be accepted with the exception of the part where Dr. Hohlen be allowed to retire from his position. Seconded and carried.

The report of the Insurance Committee was called for. Dr. Selby was absent so report was referred to the next meeting.

The report of the Medical Legal Defense Committee was called for.

Dr. Fouts had nothing further to report than the report read in January.

Dr. Overgaard read the Necrology list for 1927-28. The members remained standing while this list was read.

A motion was made that a page be set aside in the Journal as a memorial page for these doctors. Seconded and carried.

Dr. Adams read the amendments to the constitution that were read before the House of Delegates at the 1927 meeting. They are now to be acted upon.

A motion was made that the amendment to Article II of the amendments be adopted. Seconded and carried.

A motion was made that the amendment to Article VIII be adopted. Seconded and carried.

A motion was made that the amendment to Chapter 6, sections 1 and 1a be adopted. Seconded and carried.

A motion was made that the amendment to Chapter VIII be accepted. Seconded and carried.

A motion was made that the amendment to Section IX be adopted. Seconded and carried.

The Committee on Nominations were chosen as follows: R. W. Fouts, Geo. Covey, E. R. Hays, Lucien Stark, E. E. Koebbe, J. M. Woodard, Joe Bixby, P. A. Sundbury, E. J. Whitehead, W. J. Arrasmith.

A motion was made that these men be accepted as the Nominating Committee. Seconded and carried.

Meeting adjourned.

HOUSE OF DELEGATES: SECOND SESSION

Auditorium, Hastings, Nebraska, Wednesday, May 16, 1928. 12:30 p. m.

Meeting was called to order by President Dr. B. R. McGrath. Roll call by Secretary Adams showed 32 members present.

A motion was made that Dr. W. H. Benson be seated to act as delegate from Burt County. Seconded and carried.

A motion was made that Dr. G. B. Dent be seated to act as delegate of the Lincoln County Medical Society. Seconded and carried.

New business was called for .

Dr. Buckley of Beatrice spoke concerning the advisability of a post graduate extension course for doctors in Nebraska. He described the traveling teaching plan of Kansas.

A motion was made that the committee on Medical Education arrange the matter of devising and promoting a plan for post graduate extension work.

This motion was substituted for the following motion:

That the Committee on Medical Education investigate the feasibility of post graduate extension work in various parts of the State. Seconded and carried.

Dr. McGrath read a report of the Committee on the Cost of Medical Care. Drs. H. W. Benson, B. F. Bailey, A. P. Fitzsimmons, C. C. Tomlinson and E. E. Koebbe discussed the report.

A motion was made that the chair appoint a committee to make a study of this and report to the House one year from now. Seconded and carried.

Dr. McGrath appointed Drs. E. W. Rowe, Lucien Stark and C. A. Selby for this committee.

The minutes of the first session were read by Dr. Adams. These were approved as read.

The minutes of the First Councilor meeting were read by Dr. Adams, and approved as read.

The Insurance Committee report was called for.

Dr. Selby referred the house to his report made in January which was published in the Journal and also brought a map showing just how many doctors in each county had taken out the group policy insurance. He also said he was much pleased with the services rendered by the U. S. F. & G. Company, who are the insurors, and that they have requested that section 6 be stricken from the policy, which is to our particular benefit and he would so move at this time. Seconded and carried.

A motion was made that this body endorse the modified policy of the U. S. F. & G. Company with Section 6 omitted.

A motion was made that this motion be tabled until the next meeting of the House of Delegates so that section 6 and the master policy as it now stands could be explained to them. Seconded and carried.

A motion was made that Dr. Douglas be allowed to act as a member of the Nominating Committee. Seconded and carried.

A motion was made that Dr. G. B. Dent be allowed to act as a member of the Nominating Committee from his councilor district. Seconded and carried.

A motion was made that the State Fair Committee be officially discharged, this work to be taken up by the Public Activities Committee. Seconded and carried.

Meeting adjourned.

HOUSE OF DELEGATES: THIRD SESSION

Auditorium, Hastings, Nebraska, Thursday, May 17, 1928, 8:00 A. M.

Meeting was called to order by President Dr. B. R. McGrath. Roll call by Secretary Adams showed 47 members present.

A motion was made that Drs. Rodney Bliss, E. C. Sage, C. R. Kennedy and R. Rix be seated for Drs. Patton, Uren, Heagey and Schrock respectively, to act as delegates. Seconded and carried.

The minutes of the second session of the House of Delegates were read by Dr. Adams and approved as read.

The minutes of the second councilor meeting and special session were read by Dr. Adams.

A motion was made that these minutes be received and adopted. Seconded and carried.

Dr. Lucien Stark read the report of the nominating committee as follows:

For President: Drs. F. S. Owen, Omaha; K. S. J. Hohlen, Lincoln; J. V. Beghtol, Hastings.

For Vice Presidents: Drs. W. R. Boyer, Pawnee City; Dr. E. L. Brush, Norfolk.

Councilors: 5th District, Dr. Morris Nielsen, Blair; 6th District, Dr. F. Tornholm, Wahoo; 7th District, Dr. H. E. Potter, Fairbury; 8h District, Dr. W. J. Douglas, Atkinson.

Delegate to A. M. A.: R. W. Fouts, Omaha.

Alternate Delegate to A. M. A.: J. M. Mayhew, Lincoln.

Journal Committee: Dr. W. O. Bridges, Omaha.

Delegate to Council on Medical Education: Dr. J. Stanley Welch, Lincoln.

Public Activities Committee: Short term—J. S. Welch, Lincoln; Long term—H. W. von Schulte, Omaha.

Respectfully submitted,

Lucien Stark, Chairman
R. W. Fouts, Secretary.

A motion was made that this report be adopted. Seconded and carried.

The House then proceeded to the election of officers.

Drs. Lucien Stark and Morris Nielsen were appointed as tellers.

The House of Delegates proceeded to cast ballot for the three nominees for President.

Dr. Owen received 29 votes, Dr. Hohlen 10 votes, and Dr. Beghtol, 8 votes.

A motion was made that inasmuch as Dr. Owen had received the majority of votes cast for President that his election be made unanimous. Seconded and carried.

A motion was made that the rules be suspended and that the secretary be instructed to cast the unanimous ballot for the remaining officers contained in the report of the Nominating Committee. Seconded and carried.

The Secretary cast the unanimous ballot of the House of Delegates for Drs. W. R. Boyer and E. L. Brush for Vice Presidents; Dr. Morris Nielsen, Councilor for 5th District; Dr. F. Tornholm, Councilor for 6th District; Dr. H. E. Potter, Councilor for 7th District; Dr. W. J. Douglas, Councilor for 8th District; Dr. R. W. Fouts, Delegate to A. M. A.; Dr. J. M. Mayhew, Alternate Delegate to A M. A.; Dr. W. O. Bridges, member Journal Committee; Dr. J. Stanley Welch, Delegate to Council on Medical Education; Dr. J. S. Welch, short term Public Activities Committee; Dr. H. W. von Schulte, long term Public Activities Committee.

Unfinished business was called for.

Dr. Selby read the report he gave in January showing how Section 6 had been removed from the policy of the U. S. F. & G. Company and explained the working of the policy as it now stood.

A motion was made to agree to Section 6 being omitted. Seconded and carried.

A motion was made that we make the Chicago Northwestern the official route to the meeting of the A. M. A. at Minneapolis. Seconded and carried.

Selection of the place of meeting for the next annual meeting was now in order. Both Omaha and Lincoln gave invitations.

A motion was made that Omaha be chosen as the next meeting place. Seconded and carried.

A motion was made that we extend to Hastings a vote of sincere thanks for their courteous treatment of the Nebraska State Medical Association. Unanimously carried.

A motion was made to adjourn. Seconded and carried.

COUNCILOR MEETING: FIRST SESSION

Auditorium, Hastings, Neb, Tuesday, May 15, 1928. 2:00 p. m.

Members present were: Drs. Lehnhoff, Cook, Tornholm, Overgaard, Potter, Fordyce, Plehn, Preston and Rork.

A motion was made that the report of the committees read a the January meeting of the Council be adopted. Seconded and carried.

A motion was made that a recommendation be made to the House of Delegates that the Report of the Committee on Public Policy and Legislation be approved and placed on file. Seconded and carried.

A motion was made that a recommendation be made that the report of the Campaign Committee be approved and placed on file. Seconded and carried.

A moion was made that the report of the Public Activities Committee and State Fair Committee be acceped and such portion printed in the Journal as deemed expedient by Dr. Hays. Seconded and carried.

Dr. Hays appeared before the Council and gave his reasons for bringing charges against Drs. Miner, Lang and Greene.

Dr. Green gave a short talk in defense.

Meeting adjourned until 9:00 a. m. Wednesday, May 16th.

COUNCILOR MEETING: SPECIAL SESSION

Auditorium, Hastings, Nebraska, Wednesday, May 16, 1928. 9:00 a. m.

Meeting was called to order. Those present were: Drs. Plehn, Cook, Selby, Lehnhoff, Rork, Preston, Tornholm, Potter, Fordyce, Douglas, Bryson. Dr. Fouts was also present.

Dr. Adams gave a review of the charges made by Dr. Hays against Drs. Miner, Lang and Greene.

Dr. Miner read their defense.

Drs. Lang and Greene were called to give short talks.

A motion was made that we continue this session at a later date at the call of the President and that the President appoint a committee of three to confer with these gentlemen and then later decide upon further action. Seconded and carried.

Dr. Potter, acting president, appointed Drs. Lehnhoff, Selby and Bryson to act as this committee.

Meeting adjourned.

COUNCILOR MEETING: SECOND SESSION

Auditorium, Hastings, Nebraska, May 16, Wednesday. 2:00 p. m.

Meeting was called to order. Those present were: Drs. Fordyce, Potter, Plehn, Douglas, Cook, Tornholm, Bryson, Preston, Rork, Lehnhoff. Also Dr. McGrath.

It was moved to recommend the appropriation to the House of Delegates as follows:

Journal Fund—$1.50 per member.
Salary—Chairman Defense Committee—$600.
Salary—Secretary-Treasurer—$600.
Expense—Chairman Defense Committee—$200.
Councilor Expense—$360.
Secretary Expense—$800.
Reporter for Meeting—$150.
Campaign Committee—$500.
Public Activities Committee—$1500.
President's Expense—$100.
Railroad fare for delegates to A. M. A. and Council on Medical Education.

Also Program talent.

Seconded and carried.

A motion was made that Dr. C. A. Hull be elected for the unexpired term on the Medical Legal Defense Committee. Seconded and carried.

A moion was made that Dr. Hull be elected as a member of the Medical Legal Defense Committee for the full term beginning aJnuary 1, 1929. Seconded and carried.

A motion was made that the chairman of the Public Activities Committee see that a proper report of the Association Meeting be made. Seconded and carried.

A motion was made to place Dr. A. B. Somers of Omaha on the Honorary membership list. Secondde and carried.

A motion was made to place Dr. C. A. Bradley, Beatrice, on the Honorary Membership list. Seconded and carried.

Motion was made to adjourn. Seconded and carried.

HOUSE OF DELEGATES

Attendance Record

Adams—G. L. Pinney	p	a	p
Boone			
Box Butte—E. J. Whitehead	p	a	a
Buffalo—L. T. Sidwell	p	p	a
Burt—H. W. Benson	a	p	p
Butler			
Cass —.			
Cedar, Dakota, Dixon, Thurston and Wayne—C. L. Phillips	a	a	a
John Buis	a	a	a

Chase, Dundy, Hayes and Hitchcock—			
Cheyenne			
Colfax—F. G. Kolouch	a	a	a
P. H. McGowan	a	a	a
Clay—H. H. Seley	p	a	p
Cuming			
Custer—Theo. Koefoot	a	a	p
L. W. Forney	a	a	a
Dawson—E. C. Stevenson	a	a	p
Dodge—A. E. Hoff	a	a	a
R. T. Van Metre	a	a	a
Fillmore—J. Bixby	p	p	p
Franklin—R. B. Campbell	p	a	p
Furnas—C. Minnich	p	a	a
Gage—F. W. Buckley	a	p	a
J. C. Tucker	p	a	a
Hamilton—J. M. Woodard	p	p	a
Hall—W. J. Arrasmith	a	p	a
Harlan—J. N. Campbell	p	a	a
A. J. Gardner	a	a	a
Holt & N. W.—C. H. Root	a	a	a
F. L. Wilson	a	a	a
Howard—F. S. Nicholson	a	a	a
A. H. Holm	a	a	a
Jefferson			
Johnson—A. P. Fitzsimmons	a	p	p
C. D. Barnes	a	a	a
Kearney			
Keith-Perkins			
Kimball—B. Pankau	p	a	a
Knox			
Lancaster—Geo. Covey	a	a	p
J. E. M. Thomsen	a	a	p
H. H. Waite	a	a	a
S. C. Clements	p	p	p
Lincoln—G. B. Dent	a	p	a
Madison, Stanton, Pierce, Antelope and Knox—Walter Benthock	a	p	p
C. E. Rogers	a	a	a
Lucian Stark	p	p	p
G. E. Charlton	a	a	a
E. E. Curtis	p	a	a
J. W. Bennie	a	a	a
J. D. Reid	a	a	a
R. A. Frary	a	a	a
Merrick			
Nance			
Nemaha—I. W. Irwin	a	a	p
C. A. Lutgen	a	a	a
Nuckolls			
Omaha-Douglas—J. M. Patton	p	a	p
F. W. Wearne	a	a	a
C. C. Tomlinson	p	p	p
R. R. Best	a	a	a
R. W. Fouts	p	a	p
C. W. Schwab	a	a	a
C. T. Uren	a	a	p
J. W. Duncan	a	a	a
E. W. Powell	p	p	p
F. W. Heagey	p	a	p
R. D. Schrock	a	a	p
Otoe—M. M. MacVean	a	a	a
W. S. Yager	a	a	a
Pawnee—E. L. McCrea	a	a	a
J. F. Prendergast	a	a	a
Phelps—P. A. Sundbury	p	p	p
Guy Clark	a	a	a
Platte—E. E. Koebbe	p	p	p
F. H. Morrow	a	a	a
Polk—C. L. Lemar	a	a	a
J. C. Malster	a	p	p
Red Willow—W. E. Knox	a	a	p
W. D. Mackechnie	a	a	a
Richardson—E. R. Hays	p	p	p
Wm. Shepherd	a	a	a
Saline—R. C. Kirchman	p	a	a
Saunders			
Scottsbluff—E. E. Griggs	p	a	p
A. L. Cooper	a	a	a
Seward			
Thayer—C. C. Snowden	a	a	a
J. G. W. Westerhoff	a	a	a
Valley			
Washington—W. E. Wright	p	p	a
Webster			
York			

COUNCILORS

A. P. Overgaard	p	a	p
H. J. Lehnhoff	a	a	p
C. P. Fordyce	p	a	p
A. E. Cook	p	p	p
S. A. Preston	p	p	p
F. Tornholm	p	p	p
H. E. Potter	p	p	p
W. J. Douglas	a	p	p
R. D. Bryson	a	p	p
L. W. Rork	p	a	p
S. A. Selby	a	p	p
F. W. Plehn	p	p	p

OFFICERS

President—B. R. McGrath	p	p	p
Vice Presidents—A. P. Overgaard	p	a	p
C. A. Selby	a	p	p
Secretary-Treasurer—R. B. Adams	p	p	p

EX-PRESIDENTS

M. L. Hildreth	a	a	a
A. S. von Mansfelde	a	a	a
J. E. Summers	a	a	a
W. O. Bridges	a	a	a
A. R. Mitchell	a	a	a
H. M. McClanahan	a	a	a
A. E. Jonas	a	a	a
F. A. Long	p	p	p
Harold Gifford	a	a	a
L. M. Shaw	a	a	a
P. H. Salter	a	a	a
J. P. Lord	p	a	a
I. N. Pickett	a	a	a
J. P. Gilligan	a	a	a
E. W. Rowe	a	p	p
W. F. Milroy	a	a	a
C. L. Mullins	a	a	a
J. M. Banniser	a	a	a
H. W. Orr	a	a	a
M. S. Moore	a	a	a
B. B. Davis	a	a	a
B. F. Bailey	p	p	p
Morris Nielsen	p	p	p
Palmer Findley	a	a	a
H. J. Lehnhoff	a	a	p
H. E. Potter	p	p	p

In Memoriam

> "Let not a death unwept, unhonored, be
> The melancholy fate allotted me!
> But those who love me living, when I die,
> Still fondly keep some cherished memory."

Willis M. Wilson	Died	May 15, 1927
Arthur E. Bowles	Died	June 3, 1927
James S. Goetz	Died	June 7, 1927
David Isaacs	Died	June 25, 1927
Quillan A. Kerley	Died	June 27, 1927
Frank E. Coulter	Died	July 17, 1927
Adelbert Townsend	Died	Sept. 18, 1927
Alfred H. Thomas	Died	Sept. 23, 1927
Moses T. Zellers	Died	Sept. 23, 1927
Guy B. Cross	Died	Sept. 30, 1927
William L. Crosby	Died	Oct. 6, 1927
George A. Langstaff	Died	Oct. 20, 1927
Voorhees Lucas	Died	March 31, 1928
A. H. Farnsworth	Died	April 19, 1928

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Vol. XIII July No. 7

ROSTER OF OFFICERS

	Term Expires
Dr. B. R. McGrath, Grand Island, President	1928
Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

COUNCILORS

Dr. R. D. Bryson, Calloway, Chairman	1929
Dr. L. W. Rork, Hastings	1929
Dr. C. A. Selby, North Platte	1929
Dr. F. W. Plehn, Scottsbluff	1929
Dr. S. A. Preston, Fremont	1928
Dr. W. J. Douglas, Atkinson	1928
Dr. Frank Tornholm, Wahoo	1928
Dr. H. E. Potter, Fairbury	1928
Dr. A. P. Overgaard, Omaha, Secretary	1930
Dr. H. J. Lehnhoff, Lincoln	1930
Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

Dr. A. S. v. Mansfelde, Ashland, Honorary Chairman	
Dr. Roy W. Fouts, Omaha, Chairman	1929
Dr. C. A. Hull, Omaha	1928
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

THE RECENT MINNEAPOLIS MEETING

Within ten minutes after the registration windows were opened Monday morning for the seventy-ninth annual session at Minneapolis, and two days before the actual work of the meeting was to begin, the place was crowded with physicians eager to register, which can only mean that intense interest centers in organized medicine and in the meetings of the American Medical Association. Compare this with the report of Secretary Olin West that the membership increased 2191 during the past year and now amounts to 94,000 and you must realize what a potent and cohesive force is organized medicine.

Minneapolis, beautiful city of half a million people, with a seven million dollar auditorium, superb in its appointments, acoustically perfect with the aid of loud speakers, made an ideal place for the convention. The attendance exceeded 4500 registrants which with auxiliary members and wives must have brought the attendance to almost seven thousand.

Dr. Jabez N. Jackson, retiring president, decried the overdevelopment of free clinics and plead for the establishment of a council to investigate and classify medical charities and to formulate rules as to what constitutes a proper medical charity. While the medical profession owes fair and competent medical service to the public, the public also owes fair treatment to physicians.

Dr. William S. Thayer, president, in a masterful address, spoke of the present day medical education with much favor. He called upon his hearers to remember certain fundamental truths: Our main functions as physicians are to care individually for our patients, to treat them when they are ill and to give them such advice that they may preserve their good health. Equally important is our duty to prevent the spread of disease from our patients to others within the household, or without. It is our duty to cooperate in every respect with local boards of health. In the care of the public health the physician has heavy responsibilities. This special responsibility we should never forget.

The House of Delegates worked smoothly and made much progress with the problems before the body.

The exhibits, both scientific and commercial, were larger than ever before. The commercial exhibits numbered about two hundred, and the scientific exhibits about one hundred. The heart exhibit and the plaster of paris fracture dressing exhibit, perhaps called forth most interest.

The reception to the President in the spacious Marigold Ballroom was a brilliant event, attended by most of the physicians and their ladies in attendance at the sessions and yet the room was not uncomfortably crowded.

Dr. M. L. Harris, Chicago surgeon and chairman of the Judicial Council, was elected president-elect and the next meeting place was fixed at Portland, Oregon.

DR. ALEXANDER S. v. MANSFELDE

Dr. Alexander S. v. Mansfelde, Ashland, Nebr., physician, surgeon, scholar, for many years the outstanding and dominant character in the organized profession of Nebraska, passed away Sunday evening, June 17, 1928, and was buried at five p. m., June 19. Several dozen physicians attended the obsequies. He had attained the age of eighty-two years.

Dr. Alexander S. v. Mansfelde was born in Neumark, Prussia, December 21, 1845. He came to America in 1862. Upon arrival in this country he became a student and helper in the office of Dr. A. H. Hunt in Indiana. In 1866 Dr. v. Mansfelde removed to Chicago where he was for sometime a student of pharmacy and was employed in a drug store. The traits that have characterized the Doctor during his entire professional life appeared at that time in the drug store clerk of twenty years of age.

During this apprenticeship he lived above the store and he made it a custom to memorize the contents of the bottles and their names as they stood upon the shelves. At night he would come down stairs in the darkness and go along the shelves bottle by bottle, naming them from memory. At intervals he would strike a light to check up his recitation. This plan he followed until he was letter perfect for both Latin and popular names for the contents of all the bottles on all the shelves in the store.

It is not too much to say that in all of Dr. v. Mansfelde's scientific and clinical work he was equally thorough and conscientious. Following the drug store and pharmaceutical training he went to Chicago as a student and obtained his medical degree from Rush Medical College in the Fire class of 1872.

Dr. v. Mansfelde has recently presented to the writer an amputating case of the Civil War type which was given to him in 1872 by his professor of surgery, Dr. Moses Gunn. Again it is significent that in the fifty-six years since 1872 not a single instrument has disappeared from this case and they are all in good condition.

In 1875 Dr. v. Mansfelde was called to Nebraska to perform an operation. He located in Lincoln and became associated with Dr. G. W. French. The partnership lasted two years. The Doctor removed to Ashland in 1877 and devoted himself particularly to surgery, setting aside his house, in part, to provide hospital accommodations for his patients. A large number of the early surgical operations performed in Nebraska were performed here with his wife as the anesthetist and with chloroform as the anesthetic. He continued this custom successfully for many years.

In 1880 Dr. v. Mansfelde assisted in the organization of the Omaha Medical College (the predecessor of the present Medical Department of the University of Nebraska) and was the first Professor of Pathology. Upon this subject he gave the lectures for several years.

The author of this sketch has also a manuscript in the Doctor's handwriting of about one hundred pages of lectures based upon the printed code of ethics of the American Medical Association of forty years ago. The Doctor was always an active partisan for and participant in movements for the improvement of the profession. He has molded or actually written most of the statutes affecting the health and medical practice of Nebraska. Even the National laws have felt his influence at various times, he having helped to write and pass the laws by means of which the Medical Department of the United States Army was reorganized and the National Pure Food Law.

Dr. v. Mansfelde's journeys to Washington on behalf of legislation to aid Dr. James Carroll and his family and the widow and children of Dr. Jesse Lazear are too well known to require comment. These "victims'' of the yellow fever discovery owe practically all of the government recognition and assistance they obtained to the initiative and efforts of Dr. v. Mansfelde.

Dr. v. Mansfeldt was an active and always helpful member of the medical organizations of his area. He was the organizer in large part of the Nebraska Railway Surgeons Society and its President in 1896. He was Secretary of the Nebraska State Medical Society, publishing its yearly transactions, etc., for eleven years and became President in 1894. For thirty years he knew more about the Society in all its functions than any one else. In 1897 he was President of the Medical Society of the Missouri Valley in which also he was for many years an outstanding figure.

In medical affairs, public or private, Dr. v. Mansfelde always had personal views, he was always a partisan and usually a militant partisan. Moreover, he was usually right. Even so, his aggressiveness and his indisposition to compromise often cost him friends even when he had plenty of supporters. However, he cared far less for an easy peace than he did for a triumph of what he believed to be right; and certainly he had plenty of triumphs to his credit.

The Doctor was naturally a life long member of the American Medical Association. He was Mayor of Ashland in 1894 and always an active and loyal citizen. His interest in the sciences collateral to medicine led him to be a good pharmacist, chemist, botanist and even a meteorologist.

He loved his garden which was a small museum of plants and trees. He served as weather observer for the Ashland station for many years and most of the reports went to headquarters in his own handwriting.

The Doctor was also a member and president of the Nebraska Academy of Sciences—a distinction which, as suggested above, he very well deserved.

Dr. v. Mansfelde was married first in Chicago and had five children. Four daughters are living. His only son, Charles, died soon after graduating in law about twenty-five years ago. The Doctor's first wife died in January, 1916, and he married the following year, Miss Sylvia Butts, in May, 1917.

During Dr. v. Mansfelde's active and prosperous years he was a liberal and generous husband, father and friend. His later years were saddened by somewhat less prosperous times but he was able to spend his last days as he wished in the home of forty years or more.

He was a faithful and conscientious physician. His work for his patients and for the profession will stand as a noble monument to his memory. He helped to make conditions in Nebraska and in the whole country better and happier for us and for those who are to follow.

—H. Winnett Orr.

DR. HIDEYO NOGUCHI

Doctor Noguchi, noted Japanese research worker, is no more. He died a martyr to science. He succumbed May 21 to African yellow fever which he had gone to the Gold Coast to study. He had gone to the Gold Coast of Africa last November to study the relationship between the African and South American yellow fever at the instance of the Rockefeller Foundation. The object of his search is said to have been attained before his death. He was born in Japan in 1876, educated in the public schools and graduated in medicine in the Tokio Imperial University in 1897. He has been connected with many scientific institutions in the United States and other countries since that time and received degrees almost without number. His life was devoted to the study of infectious diseases. He was one of the greatest scientists of all time.

THE FIFTY DOLLAR PRIZE OF THE NEBRASKA TUBERCULOSIS ASSOCIATION

The fifty dollar prize of the Nebraska Tuberculosis Association for the best pathological exhibit made at the annual meeting of the Nebraska State Medical Association at Hastings was awarded to Wayne Waddell of Beatrice, son of Dr. J. C. Waddell. Wayne Waddell is a junior at the Nebraska University College of Medicine. He is a B. Sc., of the Nebraska University and the past year has done some work looking toward an M. S. degree. The exhibit was of the heart, with special reference to the coronary circulation.

NEBRASKA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The Fifteenth Annual meeting of the Nebraska Academy of Ophthalmology and Otolaryngology was held at Hastings, the night of May 14th, 1928.

About thirty members attended the meeting.

The following officers were elected for the ensuing year: President, Dr. J. B. Potts, Omaha; Vice President, Dr. E. B. Brooks, Lincoln; Secretary-treasurer, Dr. Clarence Rubendall, Omaha.

Dr. C. H. Fox, Kearney, presented an unusual case of a young girl with bilateral retinal degeneration without pigment formation.

Dr. H. Gifford reported a case of severe burn of both eyes by carbide sluge.

Dr. William C. Finnoff of Denver was the guest speaker. He presented "The Histopathology of the Eye", demonstrating the practical side of the complications of eye surgery.

—Clarence Rubendall, Sec.

BIOLOGY AND ALCOHOL

It is evident that the human race has inherited an appetite for fermented liquors that dates back to man's earliest origins, along with the craving for meat and for fresh fruit and vegetables. Is there a biological foundation for the appetite for alcohol, with as sound a physiological basis as the appetite for other necessary articles of food? Every race, every people has its own way of fermenting liquors, which it has used from time immemorial as an apparently essential part of its living habits. Our literature reflects this same appetite as an apparently inborn trait. I have seen but little scientific writing on the subject, though medical literary men like Oliver Wendall Holmes, betrayed a strong sympathy for it outside their medical writings. Possibly the closest approach that I know of, is an excellent psychological defense of alcohol by Joseph Jastrow in his "Psychology of Belief".

The medical profession of today gives at least the external impression of a tacit agreement with the tenets of the prohibition and anti-alcohol enthusiasts. To conform with the laws that the majority has seen fit to pass, and to set the proper example to the weak brothers in the human family (a generous gesture, Albert Edward Wiggam says), who do make a mess of their lives with alcohol, medical men have passively admitted that they can at least get along without alcohol in the treatment of disease and in ordinary living.

Recently there has even been a feeling among us that alcohol was a harmful and dangerous toy, and that every little bit of it did its modicum of harm. In fact, we have almost assumed an attitude of self-congratulation that the human race has finally awakened and cast off this curse of ages. But, a thoroughly worked-out and impartial scientific view of the matter has yet to appear.

In analyzing the problem of whether fermented alcoholic liquors are really craved by the human organism and whether they have any physiological value, the first thing that investigators have admitted is, that there is no doubt about the harmfulness of an excess of alcohol. There is no getting around the fact that an excessive indulgence in liquors with a high concentration of alcohol over long periods of time works distinct harm to the human body, and has its own toxic picture.

However, the next step in the pursuit of the argument is, that no investigator has ever proved that moderate indulgence in fermented alcoholic liquors is of any physiological harm. On the contrary, there is some experimental evidence of direct benefit. Raymond Pearl's survey of five thousand Baltimore workmen brings out distinctly that while heavy drinking shortened life and deteriorated health, moderate drinkers on the average lived longer and remained in better health than total abstainers.

Of course, in this matter as in all her other business, Nature operates for the benefit of the race and disregards the individual. The welfare of an individual means nothing whatever in her plans for the progress and evolution of the race; he is sacrificed as ruthlessly as an insect on the track. Boldyreff's experiments with rats have taught us an interesting lesson. Five generations of rats fed generously on alcohol resulted in a breed much sounder and better physically than the ones with which he started. However, this improvement was obtained at the expense of the less fit individuals. The alcohol eliminated those whose physical constitutions were not the best and soundest.

That is the way alcohol has worked on the human race in the past. It has purified the race by quickly eliminating the presence and the heredity of the less sound and poorly adapted—meaning this both in physical and mental respects. The rat experiment confirms the suspicion of many of us on this subject, who feel that a man who is constitutionally well-balanced and thoroughly fit, will not take to hard and excessive drink. Drunkenness is pathology, mental or physical. Drunkenness is one of Nature's ways of eliminating those who she doesn't want as members of her family.

In fact, we have a clue as to what may be the actual purpose in the physiological economy, of fermented liquors. The fact that in the preparation of a purified Vitamin B product in the laboratory, the yeast is first extracted with alcohol, is a powerfully suggestive one. All the myriad varieties of fermented liquors are produced by the growth of yeast. Yeast is one of the most important sources of Vitamin B; and Vitamin B is soluble in alcohol and is well preserved in alcoholic solution. The fact that grains have a high content of Vitamin B, and that grains are chiefly used in the preparation of fermented liquors, is further suggestive.

Man first existed in the warm regions where he could get his food from hand to mouth every day. When he moved on into countries where the winter without immediately available fresh food made storage necessary, he was confronted by the fact that there must be some way of preserving his vitamins. He didn't think this out consciously. Nature solved it through ages of blind groping, and man paid for it with much death and sickness. But, the fermentation of liquors seems to have been one way of carrying a supply of Vitamin B through the winter. The age-old craving may mean, among other things, an expression of the need for Vitamin B.

I can find no teleological explanation for an appetite for distilled liquors, nor any experimental justification for their use. This appetite seems to be a perversion, just as the craving for candy is a perversion of the natural appetite for fruit-sugar, given to us by Nature for the purpose of securing to us a supply of the vitamins, minerals, carbohydrates, and residue from fruits. There are plenty of examples of the perversion of Nature's beneficient plans into unfortunate channels.

This discussion is not necessarily an argument for the continuance of indulgence in fermented liquors. With our conscious knowledge of man's nutritional needs, we now have other means of securing a sufficient supply of Vitamin B, without the by-product, alcohol, with its numerous further harmful social by-products that are inevitable from its civilized production and consumption: the exploitation of the weak by the strong, the misleading of youth by perverted examples, and so forth. We no longer need Nature's crude method of supplying our Vitamin B.

That leaves the one matter of interfering with Nature's plans for the building-up of a stronger, better human race by the very effective method of eliminating undesirable individuals. However, civilization brings with it problems so complex, and our ability to deal with them consciously is developing so slowly, that all we can do is the best we know how. Just now, that seems to be to stay away from alcohol. Medical science, by preserving so many unfit, is interfering with Nature's plan of eliminating the unfit in her own fashion, in so many other ways, that the alcohol question is but a tiny drop in the bucket. Fortunately, we can already see the promise of methods which will carry out Nature's desire for a stronger and better race by more human, and much more rapid means.

—Miles J. Breuer.

COUNTY SOCIETY HISTORY WANTED

We have no records in our office previous to about 1918 which amount to much of anything. Several times this winter I have been asked to furnish the date of organization, first officers, et cetera of certain county societies and have been unable to do so; consequently we have decided to gather as much information about the county societies as possible. I am wondering, therefore, if you could furnish us the following information relative to your county society:

1. The date your society was founded.
2. Names of the charter members.
3. First officers and where they lived.
4. Give us a short history of your society. In this give us the names of the officers over the years as nearly as you can and important happenings such as participation in public events or political affairs or important meetings et cetera.

If you do not have these things at your fingers end I imagine that there are some of the old doctors in your community who can help a great deal.

—R. B. Adams, Sec.

UNIVERSITY EXTENSION POST GRADUATE WORK

At the Hastings meeting of the House of Delegates, consideration was given to the proposal to initiate some form of University Extension Post Graduate work in Nebraska such as is already in operation in Kansas and has been successfully carried out in North Carolina.

The idea has merit and is a major activity that the State Association can well afford to sponsor, particularly as it requires chiefly organization and direction rather than expenditures from the treasury.

Briefly outlined the Kansas plan is as follows: A course of nine lectures of one hour and twenty minutes each, followed by two hours of clinic and conference, a total of approximately thirty-six hours.

The doctor gives up only three or four hours a week to the work. This he can arrange without loss to his practice.

One course is taken at a time, each one lasting nine weeks. The first year's subjects are usually Pediatrics, Internal Medicine or General Pathology. The courses offered cover the latest development in science and practice. The instructors are secured from the great medical schools and are of the highest attainments. Each lecture is followed by a clinic for which each doctor may furnish two cases from his own patients and a seminar for direct questions, three hours in all.

Each local group meets once each week on the same day and hour for nine weeks. The instructor teaches six classes each week in six different centers. He goes over this circuit every week for nine weeks giving each class nine lectures and eighteen hours or more of clinic and consultation work. Each doctor can consult an authority about his cases or any medical subject.

The work can be conducted throughout the year though more teachers are available during the summer.

It is estimated that a fee of thirty dollars from each doctor taking the course is sufficient to cover all the expense.

The stimulus of personal contact with an authority will do much to inspire enthusiasm of medical men especially those residing outside the large centers.

The investigation of this project has been referred to the Council of Medical Education and their action will doubtless depend somewhat on the demand from the ranks for such a service.

—F. W. Buckley.

EDITORIAL PARAGRAPHS PICKED UP AT THE MINNEAPOLIS MEETING

Insulin has almost wiped out coma.

It's mick-rophone, not mi-crophone.

The A. M. A. now has 94,000 members.

All ponderable matter emits radiant energy.—Bovie.

Gallstones first appeared in history in the 16th Century.

If baby's food once agrees, it always agrees.—Marriott.

Local anaesthesia for cesarean section in eclampsia was advocated.

The first mastoid operation was performed in the early part of the 18th Century.

One hundred and four Nebraska physicians registered at the Minneapolis meeting.

The Woman's Auxiliary registered six hundred of their members at the meeting.

Dr. W. F. Milroy's paper "Chronic Hereditary Edema" called forth much favorable comment.

Marriott said 80% of all cases of gastrointestinal disease in infants are due to sinus infections.

Lahey says you can do any necessary surgery on a diabetic patient by guarding patient with insulin.

Graham (St. Louis) says pain of cholelithiasis is referred to the right shoulder blade—not the right shoulder.

Now, then, according to Koehler of Detroit, we have in addition to hypothyroidism a new one, hypo-suprarenalism.

Colloch said the Anglo-Saxon and Jewish people are particularly susceptible to rheumatism.

Our own Dr. A. P. Overgaard advocated the oblique method of Rhese for pictures of the ethmoid and sphenoidal sinuses.

King of Baltimore thinks corpus luteum and whole ovary substance probably useless in disturbances of the menopause.

If we can stay gangrene as we have coma the outlook far the expectancy of the diabetic will be as good as of the ordinary individual.

It was reported at Minneapolis that the C. V. Mosby Co. has in press a book on Bone Disease under the authorship of Dr. H. W. Orr.

Scientific medicine as presented at the A. M. A. meetings nowadays is a philosophy so profound the average physician cannot grasp it.

Nebraskans on the program were Orr, Sanford Gifford, Lehnhoff, Milroy, Overgaard, Lemere, Tomlinson, Edwin G. Davis, Schrock, Levine.

Dr. H. M. McClanahan's forthcoming book on Pediatrics for the General Practitioner, in skeleton form, was exhibited by the publisher.

Dixon, of Kansas City, thinks mastoiditis a greatly overrated disease and condemns too early operation, for cases may clear up without operation.

Gengenbach, Denver, urged bronchoscopic aspirations in bronchopneumonia in children through tracheotomy or laryngotomy for tenacious mucus.

Lippman of New York gives one drop of a 1-1000 atropine solution for restless hypertonic infants, increasing dose one drop daily till effect is produced.

Pollock of Chicago said, speaking of the endocrine glands—In certain things we are in a state of "controversial ignorance" and some are "vaporous entities".

Clifford Sweet of Oakland, Calif., says normal infants are bow-legged; when children begin to walk and gain stability the bow legs and knock-knees disappear.

Packing the vagina with dextrose incorporated into gauze tampons will do more for leucorrhoea than any other drug or procedure, was asserted by one speaker.

Davis told of the failings of the general practitioner in obstetrics; but he did not tell how the general practitioner may better care for his prospective mothers under conditions as he finds them and is unable to alter.

Witte, Milwaukee, uses the injection treatment for varicose veins. He uses 20 cc of a fifty to sixty per cent solution of Invertose, injecting into the previously emptied vein, twice a week, until results are produced.

Dextrose and glucose are not synonymous terms, neither are the products the same. The term dextrose must be used when dextrose is intended. For intravenous and intrarectal use dextrose is the proper remedy to use. Dextrose is a powder, glucose a syrup.

Cole and Montgomery of Detroit, spoke very highly of intraperitoneal blood transfusion in infants. Simplicity recommends it. Insert needle below umbilicus, direct needle toward bladder. Inject slowly—4 ounces in five minutes. Wonderfully beneficial results were reported.

Few chronic headaches are due to nasal pathology. Nose headaches may be due to an acute infection. Most nasal operations for headaches are questionable. "Nose tramps" are those who are nose conscious and keep going from one rhinologist to another.—Barlow, Madison, Wis.

Coffey says we may have old induated ulcer of stomach with *hypo*acidity and cancer of stomach may exist with *hyper*acidity, contrary to the formerly accepted teaching. He also said he would rather have hospital interne operate for perforated ulcer the first six hours than the greatest surgeon in the world after 12 hours. Do not operate on a bleeding ulcer—hemorrhage may come from an oozing mucous membrane.

Our own Dr. H. W. Orr, had a place in the pre-convention diagnostic clinics. He keeps hammering home the inadequacy of diagnosis and lack of adequate early drainage in osteomyelitis. Antiseptic treatment of bone wounds is not antiseptic treatment at all. Treat aseptically; use aseptic nonabsorbable pack. Change every 4 to 6 weeks only. At the first subsequent dressing, no more drainage is needed, is his preachment.

THE BANQUET

The annual Banquet of the Nebraska State Medical Association was held in Hotel Clarke, Hastings, Nebraska, on Wednesday evening, May 18, 1928, with Dr. James V. Beghtol of Hastings acting as Toastmaster.

Music was furnished by the Ingleside Orchestra and vaudeville entertainment by th Bee Ruth Entertainers of Omaha.

The principal address of the evening was made by Dr. B. R. McGrath, of Grand Island, President of the Association. This address was printed in full in the June issue.

In his closing remarks, Toastmaster Beghtol said:

"You heard the splendid address by our President—a scholarly address of words boiled down and thoroughly studied, taken from the experience of a learned, practical physician. Many of the things he stated brought back to my memory much I have gone through during my professional life.

"One year ago today we thought we saw a cleavage among two big cities of the state, whereby we might secure the convention for Hastings. A friend of mine laughed when I told him I was going to try to get the next meeting here. After we succeeded in getting Hastings selected as the next meeting place he said, 'Confound you! It isn't because Hastings deserves it, but your "cross of gold" speech stunned them and they voted before they had time to recover.' (Laughter).

"Can you go home and say Hastings has not fulfilled her promise?"

Voices: "No!"

"We have had the nicest social and professional time we ever had in the world. You go home leaving us proud and happy, with a spirit of unanimity, not only socially but medically. I hear Hastings has done well. It pleases us. It pleases our wives. We have entertained your Auxiliary and they have received it so graciously it is worth much to us. We are happy you are going home conscious of the fact I did not make a misstatement in Lincoln when I secured this convention. You have had good beds to sleep it. You have seen flowers on the table. You have heard the splendid music of the Orchestra. That's a Hastings convention—Hastings, 'The Queen City of the West'.

"The hearts of all the people in Hastings throbbed in unison in the great effort to make you happy. Every physician in Hastings as one man went forward to make this a success. This makes me happy tonight, and all the physicians and their wives, too.

"This program is in three parts. First was the splendid supper we had. Is there a man who can say we did not import the best man in Grand Island to talk to us? Can you not say we acted wisely and well in bringing good material to entertain you?

"The hour has come to say Goodbye. We hailed you with delight and open arms. You leave us sad, yet happy. I know you will all go home happy." (Applause).

FALL CONFERENCE KANSAS CITY SOUTHWEST CLINICAL SOCIETY

Scientific Exhibits, while forming one of the great educational factors of any medical gathering are, ordinarily, confusing in the wealth of material presented, and quite often exploit the individual exhibitor and his work to the detriment of real cohesive educational value. In this regard the arrangement of the Scientific Exhibits for the Annual Fall Conference of the Kansas City Southwest Clinical Society is to be especially commended.

The following Symposia have been arranged for the general program:

Feeding Problems in Children.
Diseases of the Gallbladder.
Special Problems in Obstetrics.
Surgery of the Prostate.
Peptic Ulcer.
Traumatic Surgery.

The various specialties which touch upon these subjects will group their Scientific Exhibit, and the general order of the exhibit will follow in sequence parallel to that of the general program. As an example, the subject of "Peptic Ulcer" will be dealt with from the standpoint of the scientific exhibit as follows:

1st. By the clinician, including the laboratory experience, charts of chemistry and graphic illustration of the chemical factors to be considered in Peptic Ulcer.

2nd. Peptic Ulcer from the standpoint of radiology. Their classification, routine, special methods of recognition and evaluation.

3rd. From the standpoint of treatment, both medical and surgical, with a graphic representation of the end results to be expected, by both medical and surgical treatment of the lesion.

The various subjects will be dealt with in a similar manner as the example described above, the total effort being to construct a Scientific Exhibit which will graphically portray the lesson intended by the exhibitors.

CONSTITUTION AND BY-LAWS OF THE NEBRASKA PUBLIC HEALTH ASSOCIATION

Article I. Name. The name and title of this organization shall be The Nebraska Public Health Association.

Article II. Object. The object of this association is to protect and promote public health by the closer correlation of all health activities, fostering and supporting constructive legislation, and aiding in the dissemination of correct information with regard to public health.

Article III. Membership. Any person resident in the State of Nebraska who is interested in the problems of public health shall be eligible to membership.

Article IV. Meetings. Meetings shall be held at such time and place as may be designated by the executive committee, provided that such meetings be held not less than twice each year.

Article V. Officers. The officers of this association shall consist of a president, six vice presidents and a secretary-treasurer, and these officers shall constitute the executive committee. One vice-president shall be elected from each congressional district in the state. A vacancy in any office may be filled by the remaining members of the executive committee.

Article VI. Terms of Office. Officers shall be elected annually at the spring meeting. The president and the secretary-treasurer shall be elected for a period of two years. The vice presidents shall be elected for a period of two years, with the exception that those elected from Congressional Districts 1, 3, and 5 at the first election shall serve only for a period of one year.

Article VII. Funds and Expenses. Funds for meeting the expenses of this organization shall be raised by annual dues, special assessments, and voluntary contributions. Funds may be appropriated by a vote of the association or by vote of the executive committee, for such purposes as will promote the objects of this association.

Article VIII. Amendments. This association may amend any article of its constitution by a two-thirds vote of the members present at any regular meeting, provided that such amendments shall have been read at the open session of the previous regular meeting, or shall have been sent by mail to each member, not later than ten days in advance of the meeting, at which final action is to be taken.

By-Laws

Article I. Election of Officers. A nominating committee of six members, one from each Congressional District, shall be appointed by the president one month prior to the annual spring meeting. It shall be the duty of this committee to present nominees for each office that is to become vacant at that meeting. Nothing in this clause shall be construed as preventing nominations from the floor.

Article II. Duties of the Officers. President: The president shall preside at the meetings of the association and of the executive committee, and perform such other duties as custom and parliamentary usage require of this office. Vice Presidents: The duties of the vice-presidents shall be to act as members of the executive committee, to preside in the absence of the prsident, each in his turn according to the number of his Congressional District, to use due diligence in the promotion of objects of this association in his own Congressional District, under supervision of the state president, and to perform such other duties as may be assigned to him. Secretary-Treasurer: The secretary-treasurer shall record the minutes of the meetings and receive and care for all records, papers, and correspondence belonging to this association. He shall also receive and disburse all monies and funds of this association as directed by the vote of the association or the instructions of the executive committee, and shall make a report of the receipts and expenditures of the funds of the association at the annual meeting. He shall make and keep a list of the members of this association with their correct name and address. The executive committee shall be the legal representative of the association, and, as such, shall have full control of the management of the affairs of the association, subject to the control of the association in regular meetings; it shall make the necessary arrangements for the meetings and shall have power to expend the funds of the association, but must not incur indebtedness beyond the funds in the hands of the secretary-treasurer. The executive committee shall have the power to prepare and enforce for the conducting of the business of the association by-laws not in conflict with this association. Meetings shall be held at the call of the president or of any three members of the executive committee. All questions in the executive committee shall be decided by a majority vote, and four members shall constitute a quorum. The executive committee may vote by letter on questions submitted by the president and secretary-treasurer.

Article III. Committees. There shall be three standing committees, a membership committee, a legislative committee, and a program committee. The members of each shall be appointed by the president, who shall also have authority to appoint special committees at any time.

Article IV. Duties of These Committees. The duties of the membership committee, which shall consist of one member from each Congressional District, shall be to make an effort to secure the membership of as many interested persons as possible, by explaining the objects of this association, and by such other methods as opportunities may offer. The legislative committee shall be empowered to act in an advisory capacity to the members of the legislature and to make such suggestions as they deem fit in the matter of public health legislation in the State of Nebraska. The program committee of three members shall arrange a suitable and interesting program for such meeting.

Article V. Funds and Expenses. Dues of one dollar shall be payable annually at the spring meeting. Special assessments may be made by a vote of three-fourths of the members present at any regular meeting or six members of the executive committee. Voluntary contributions for either special or general use in the promotion of public health matters may be received by the executive committee and disbursed through the secretary-treasurer, as directed by the donor.

Article VI. Order of Business. The order of business shall be as follows: First, call to order by the president; second, reading of the minutes of last meeting; third, reading of communications; fourth, committee reports; fifth, programs with papers and discussions; sixth, miscellaneous business and announcements; seventh, election of officers; eighth, adjournment. The deliberations of this association shall be governed by parliamentary usage as contained in Robert's Rules of Order, unless otherwise determined by vote.

Article VII. Amendments. These articles may be amended by three-fourths votes of those present at any regular meeting.

Adopted May 14, 1928.

Officers. Executive Committee:

President, W. H. Wilson, M. D., Lincoln.

Vice Presidents: 1. F. B. O'Connell, Lincoln; 2. J. H. Beveridge, Omaha; 3. Miss Cathrine Justesen, Neligh; 4. Mrs. Edna C. Anderson, York; 5. Rachel Long, M. D., Holdrege; 6. F. W. Plehn, M. D., Scottsbluff.

Secretary-treasurer, H. P. Letton, Lincoln.

THE SOCIETIES

The **Madison County Medical Society** at its meeting of May 22, at the Hotel Norfolk, had as honor guest Dr. A. D. Dunn, Omaha, who spoke on Blood Pressure. Dr. Mae Belle True of the infant welfare service, Washington, D. C., spoke on the purpose of the survey of maternal mortality she is making in Nebraska at this time.

The **Saline County Medical Society** held its monthly meeting at Friend, June 7, over a seven o'clock dinner, President A. A. Conrad, presiding. Dr. A. A. Conrad read a very interesting paper on Urethral Caruncle which called forth liberal discussion; Dr. H. J. Wertman, Milford, read the case history and symptomatology of a young lady as well as the laboratory findings of blood count, cell count of spinal fluid, Wassermann test, urinalysis, etc. The blood was examined for malaria, typhoid, paratyphoid. Each member was asked to guess what the diagnosis was, which proved to be an interesting way to hold the interest of a county society and sharpen the wits of the membership and bring out the best there is in them. The diagnosis proved to be anterior poliomyelitis.

—H. W. Quirk, Sec.

The spring meeting of the **Republican Valley and Tenth Councilor Medical Society** was held at Cambridge, May 31, with about 50 members present. A lovely banquet was served at the Methodist church to the society with the compliments of Doctors Minick, Key and Stewart, after the banquet the scientific program which was of exceptional merit was held at the Masonic Hall. The program comprised: "Focal Infection from Teeth and Tonsils", W. L. Shearer, Omaha; discussion by J. G. Calgan, McCook. "Diagnosis of Gastric Conditions", R. W. Fouts, Omaha; discussion by R. S. Martin, Red Cloud. "Functional and Organic Heart Disease", Arthur L. Smith, Lincoln; discussion by L. F. Egen, Hastings. This was a very successful and educational meeting.

—L. F. Egen, Sec.

HUMAN INTEREST TALES

Dr. Moyer has located at Clearwater.

Dr. Frank Kalal has located at Verdigre.

Dr. C. R. Carlson, Wauneta, visited the Mayo clinic recently.

Dr. H. D. Lurvey, formerly of Omaha, has located at Hay Springs.

Dr. G. F. Zarbaugh, Dalton, is doing postgraduate work in St. Louis.

Dr. F. J. Wearne has been elected president of the Omaha Triangle club.

Dr. J. E. Spatz has sold his home at Fairfield and has moved to Oregon.

Dr. and Mrs. Sanford Gifford, Omaha, spent the month of May in Mexico.

Dr. James P. Rigg, recent graduate, has located at Hastings, his home town.

Dr. Chester Q. Thompson and Miss Margaret Robinson, Omaha, were married June 7.

Dr. C. R. Watson, Mitchell, submitted to an appendectomy in a Lincoln hospital recently.

Dr. Chas. H. Breuer, veteran physician of Lincoln, announces his retirement from practice.

Carol Hungate and Dewitt Lowe, two Pawnee City boys were graduated in medicine this spring.

The marriage of Dr. John G. Woodin and Miss Agnes Sweitzer of Grand Island is announced.

Dr. Olga Stastny, Omaha, has been elected one of the board of Trustees of Doane College, Crete.

The marriage of Dr. Leo Martin of Cook and Miss Margaret Bro of Nebraska City took place recently.

The Nebraska University College of Medicine graduated 60 students at the annual commencement in June.

Dr. and Mrs. E. L. Hustead, Falls City, left for England, June 2nd, for a short visit to the famous clinics.

Dr. H. J. Sloss, for upward of forty years a practitioner at Wymore and Blue Springs, has moved to Florida.

Dr. F. W. Heagey, Omaha, has gone to attend clinics in Paris, Vienna, Munich, Berlin, Amsterdam, and London.

Dr. Milton H. Carrig, Columbus, and Miss Louise Kerz, Chicago, were married in May. They will live in Chicago.

Dr. Jennie Calfas, Omaha, was recently elected national democratic committeewoman for the third consecutive term.

Dr. L. J. Roberts, surgeon in the navy stationed at Vallejo, Calif., visited his parents in Omaha the latter part of May.

Bruce Hendrickson, Lincoln, was elected president of the premedical society at the closing meeting, Grand hotel, Lincoln, May 17.

Dr. K. S. J. Hohlen, Lincoln, was elected president of the Nebraska Section, American College of Surgeons, at Hastings, May 14.

Dr. Louis Koch, Cozad boy, has been sent to Europe by the Brooklyn Children's hospital to make a special study of children's diseases.

Dr. Paul Norwood, forty years ago a practitioner at Homer, now of New York City, visited the scenes of his earlier career recently.

Dr. and Mrs. H. R. Miner, Falls City, last month accompanied their daughters to New York City and aboard a liner for a trip to Europe.

Twenty-two physicians of Richardson county attended a special meeting at the Falls City hospital, June fifth, to hear Dr. Henry S. Willis, of Johns Hopkins.

An event of unusual importance is announced in the marriage early in June of our State President, Dr. B. R. McGrath, Grand Island, and Miss Dessie P. Shaffer of Carroll, Iowa.

NECROLOGY

Armenag B. Tashjean, Norfolk, Nebr.; Bennett Medical College, Chicago, 1884; Rush Medical College, 1895; widely known practitioner of Norfolk for many years until failing health compelled retirement several years ago; member Nebraska State Medical Association; died of apoplexy, May 27, 1928, aged about seventy-two years.

Dr. Tashjean was an Armenian, born at Ezeroum. He came to this country at an early age and by sheer determination worked his way through medical college and attained a high standing in the community in which he spent his active career. He was never married.

T. J. Dwyer, Omaha; Creighton Medical College, 1902; well known surgeon of Omaha for twenty-five years; member, Nebraska State Medical Association; died at Los Angeles of organic heart disease, May 29, 1928, age about forty-five years.

E. Willard Powell, Omaha; Washington University College of Medicine, 1898; well known surgeon of Omaha since graduation; member, staff, Evangelical Covenant hospital; president, 1926-27, Elkhorn Valley Medical Society; member Nebraska State Medical Association and present at the last annual meeting; died after a short illness June 5, 1928, aged fifty-two years.

A. S. von Mansfelde, Ashland, Nebr. (See second editorial page).

Isaiah Lukens, Tekamah, Neb.; Jefferson Medical College, 1890; well known physician and surgeon of Tekamah since 1897; a leading citizen and man of affairs; member Nebraska State Medical Association; died of heart disease while resting in his office, June 18, 1928, aged about sixty-four years.

Correction: An error occurred in mentioning the death of Dr. Albert H. Farnsworth in the June number. He was a graduate of The Chicago Homeopathic Medical College, 1900—not of Harvard Medical School.

POLIOMYELITIS

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SYMPTOMS OF ANTERIOR POLIOMYELITIS*

FLOYD CLARKE, M. D., F. A. C. P.,
Omaha, Nebr.

All doctors, whose practice has much to do with children, look with dread upon the disease, infantile paralysis. To have a hitherto healthy little one suddenly stricken with a helpless arm or leg and frequently more serious deformity is, to say the least, tragic both to doctor and layman.

Can we physicians by a little more care in examination and attention to detail of diagnosis, help in some measure in the amelioration and possibly in the care of this most interesting and terrible disease? At the outset it seems to me the most essential thing is for each physician to have the disease in mind. Every acute illness occurring in children, especially from June to November in each year, should be regarded with suspicion and a careful search made for a possible poliomyelitis.

Certainly it does not help the confidence reposed in the individual physician nor the reputation of the profession as a whole when confronted with the statement by an anxious mother, "Doctor, my baby is paralyzed." No doubt all of us have had this experience when we have not suspected the disease. To me it is of the utmost importance to make a diagnosis of infantile paralysis before the onset of paralysis.

In general it would also seem that our ideas concerning infantile paralysis must in some measure be changed. We must be cognizant of the fact that in a fairly large proportion of cases paralysis does not develop. We must also have in mind that paralysis, when it occurs, is comparatively speaking, a late symptom and not an early one—that the paralysis is not the disease itself, but the result following certain symptoms.

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*Chairman's Address, Medical Section, Nebraska State Medical Association, Hastings, May 15-17, 1928.

In the beginning poliomyelitis is a disease of the blood vessels of the cord. These blood vessels, especially certain portions supplying the anterior horns of the cord, become edematous and engorged with blood which in time stops the nourishment of the nerves. These nerves thus deprived of nourishment degenerate and are unable to carry on their proper function. One can readily understand how almost impossible it would be to regenerate a nerve after it has become diseased and unable to function because of that disease. Therefore, if anything is to be accomplished in the way of cure, the disease must be recognized before paralysis. Can the disease be recognized at the bedside before paralysis? What are the clinical symptoms which help us? My experience confirms that of other observers in that paralysis usually develops about the fourth day of the disease, so that in most cases the physician has four days in which to observe symptoms. Occasionally the period may be longer, probably more frequently it is shorter. At times the previous illness has been so slight that the physician is not called until paralysis has developed.

Unfortunately most of the clinical symptoms are quite indefinite; the child has been indisposed, at times there has been constipation, at other times diarrhea. Vomiting may or may not have been a symptom. On other occasions symptoms referable to the respiratory tract have been paramount. A coryza or a bronchitis has been in evidence. Nervous symptoms may at times be manifest. Irritableness, a marked desire to sleep, and possibly convulsions, may usher in an attack. Fever is a constant symptom, usually from 100 to 101 degrees, rarely it is higher. The objective symptoms are of the utmost importance. Almost constantly there is present an angina; the tonsils are red and hypertrophied, the pillars are inflamed.

The most common oustanding single symptom is neck rigidity. It is the one symptom on which most reliance can be placed. MacAusland, in his new book on poliomyelitis, calls this the anterior flexion sign. It is difficult to elicit, but if care is taken, and the normal resistance of children on examination for this symptom is taken into consideration, the abnormal will be apparent. It consists of a definite regidity and tension of the posterior neck muscles when the head is flexed upon the chest.

The next most pronounced symptom in the early cases is a hyperesthesia, and a certain resistance of the child against examination and the necessary manipulations. In some instances this is the most prominent symptom present and is manifested by a peculiar fear on the part of the little patient lest the physician disturb his position. This fear is something more than hyperesthesia; undoubtedly there is actual pain when the position is changed. Often there is pain when the muscles are gently pressed. Profuse general sweating, if present, is quite pronounced. In one of our cases it was a prominent symptom. Kernig's sign may or may not be present. If present it is suggestive; but its absence does not rule out the disease. Brudzinski's sign in my experience is usually not present. In the presence of neck rigidity it is difficult to elicit. When the sign has seemed positive to me and the youngster's legs have risen with flexion of the head upon the chest, I have always been doubtful of its correct interpretation. I would regard a positive of negative Brudzinski as of no value in poliomyelitis.

The patellar reflexes early in the attack are usually exaggerated. In the meningitic type of the disease this exaggeration is especially pronounced. In certain instances it has seemed to me that in the final summing up of diagnostic points some significance could be placed on the changes which take place in the patellar reflexes —at one examination they seem exaggerated, at another a slow response is elicited, only to be replaced by a quick response.

In the past few years considerable laboratory work has been done on the cerebrospinal fluid in poliomyelitis. Most observers note an increase in the cell count up to 1000 or more per cubic millimeter. In one of our own cases which resulted in paralysis, there was no increase in the cell count throughout the preparalytic stage. This fact has also been noted by other observers.

Probably the most reliable single diagnostic laboratory aid brought out in recent years has been the reaction of poliomyelitis cerebro-spinal fluid with Lange's colloidal gold test. This test has proven to be positive in the luetic zone when poliomyelitis is present. While I have had no personal experience with this test, it is my intention to use it in the future.

I wish to call your attention to a simple procedure which I have used for several years past. In my examination of older children, who are ill from any cause, especially from June to November each year, I have asked them to raise their legs and arms. While this may not help a great deal in your diagnosis of poliomyelitis, it at least impresses the people with the fact that you have the disease in mind.

At the present writing, Dr. Dow and I have records of seven patients in whom we have been able to make a diagnosis of poliomyelitis before the onset of paralysis. One of these patients had a definite arm and leg paralysis before giving serum, another patient developed a parlysis in one leg the day following the first injection of serum. All seven of these have recovered without paralysis. All received Rosenow's serum early, and, except in one instance, before paralysis. At this time it would be presumption on my part to state what the final proper treatment for polio in its acute stage will be. Whether Rosenow's serum, human convalescent serum, or other procedure, yet the fact is rather striking that all of our cases who received Rosenow's serum early in the preparalytic stage recovered completely without paralysis.

Speaking in a practical way insofar as Nebraska and its vicinity is concerned, Rosenow's serum is easy to obtain, while human convalescent serum is only occasionally available.

COMMENT

The importance of an early diagnosis before the onset of paralysis cannot be over-emphasized. It is essential that physicians who have to do with children have this disease in mind, especially from June to November and every acute illness be regarded with suspicion and a careful search made for a possible poliomyelitis. Suggestive symptoms are a fever, sore throat, and hyperesthesia. The most important single diagnostic sign is neck rigidity.

At present it is impossible for the clinician to state in advance which case will be the abortive type of the disease and which will not.

In the treatment of the disease it is important that each physician keep an open mind and realize that new thoughts, opinions, and experiences, are constantly being advocated. At the present time in Nebraska and vicinity Rosenow's serum, if given early in the stage before paralysis, offers the best available method of treatment

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SERUM TREATMENT OF POLIOMYELITIS*

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Before considering the serology of poliomyelitis, I deem it of importance to review briefly my work on the etiology of the disease. It is approximately twelve years since I began this investigation. The plan of work in the beginning was very different from that which had been followed previously. In my work on focal infection and elective localization I had repeatedly been impressed by the marked affinity of certain strains of streptococci for the tissues or organs corresponding to those involved in the cases from which the strains were isolated. This was especially true in herpes zoster, a disease shown really to be posterior poliomyelitis by Campbell and Head. Marked herpes zoster of the skin and mucous membrane of the mouth, associated with hemorrhagic lesions of corresponding ganglia followed the intravenous injection of freshly grown streptococcus from foci of infection at the height of typical attacks. This result was not obtained in similar experiments with streptococci from other sources from these same foci in patients after recovery, nor form the same streptococcus after cultivation for some time on artificial mediums.

Opportunity to test the idea that streptococci having peculiar invasive or localizing power might have etiologic significance in poliomyelitis presented itself in a small outbreak of poliomyelitis which occurred at Rochester, Minnesota, during the summer of 1916. Seven patients were studied and from the tonsils or nasopharynx of each a streptococcus was obtained which produced flaccid paralysis associated with localization in the central nervous system in young rabbits, a condition not theretofore noted following the injection of many strains of streptococci from other diseases. The work was continued during the summer and autumn in New York where the findings obtained in the cases in Rochester were repeated and where the same organism was obtained from the brain and cord in fatal cases. Since then, these findings have been corroborated in different epidemics which occurred in widely separated communities. The streptococcus, while it tends to produce flaccid paralysis in the rabbit does not produce typical poliomyelitis in the monkey, the rabbit being relatively highly susceptible, the monkey highly resistant. In the case of so-called virus the conditions are reversed, the rabbit being highly resistant and the monkey highly susceptible. Hence, much skepticism still exists as regards the importance of the streptococcus with which I have been working, in the etiology of poliomyelitis.

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*Read as a part of a Symposium on Poliomyelitis before the Nebraska State Medical Association, Hastings, Nebraska, May 16, 1928.

I fully realize that the experimentally induced disease in the rabbit with the streptococcus is not as typical a reproduction of this disease as that following intracerebral injection of virus in the Rhesus monkey. However, in view of the other proved facts about to be cited, it is believed that the experiments in the rabbit with the streptococcus are of significance.

The streptococcus has been demonstrated microscopically in tonsils, and the removal of tonsils during convalescence in a series of children who were not doing well, appeared to lessen pain and discomfort and to hasten restoration of function of paralyzed muscles. The streptococcus has been isolated from filtrates of emulsions of tonsils, nasopharyngeal washings, and brain and cord emulsions. On suitable mediums it may become exceedingly small and filterable. Large, medium, and exceedingly small forms are demonstrable in the lesions in brain and cord of patients who have succumbed to the spontaneous disease, and of monkeys who die or are chloroformed during the acute stage of the experimental disease following the injection of virus. The serum of patients, and with less regularity of monkeys, during acute attacks acquires increased agglutinating power over the more sensitive strains. Hence, it is not a passive invader.

By means of the precipitin reaction between cleared suspensions in sodium chloride solution of nasopharyngeal swabbings and the immune serum prepared in the horse, the general presence of this streptococcus has been demonstrated in the nasopharynx not only of patients ill with frank attacks but in abortive cases and in normal contacts. It has been shown to be only rarely present in the nasopharynx of human beings in the absence of an epidemic as well as shortly before an epidemic, to have become generally prevalent during an epidemic, and to have disappeared soon after the epidemic ceased. Toxic antigens have been prepared from freshly isolated strains which, when injected intradermally, appear to be a measure of susceptibility. I wish now to consider the serum treatment of this dread disease.

As has been pointed out in a previous paper (Rosenow and Nickel), in which references were made to the work of other investigators along this line, studies on the filterable virus of poliomyelitis, while invaluable as regards etiology, have yielded little of specific therapeutic importance except perhaps with regard to the serum from convalescent patients. Although the value of this serum is still a debated question, it seems to have beneficial action in some instances, particularly if given in large amounts. In others, apparent benefit does not follow its use. Some warn against its intraspinal injection and, while it usually has viruscidal power in vitro, the treatment of the disease produced experimentally in monkeys under controlled conditions is not always successful. Even though it had undoubted curative effects, the practical difficulties would always prevent its universal application in the treatment of this disease.

I previously reported on the value of an antistreptococcus serum in the treatment of acute poliomyelitis. The results from personal observations as well as those by others were so striking as to confirm its value in the limited number of cases treated, and to furnish evidence of the importance of the streptococcus in the production of symptoms.

Poliomyelitis varies so greatly in its manifestations in individual cases and in different epidemics, and the number of cases observed by the general practitioner is usually so small that his judgment regarding prognosis and the value of any therapeutic measure is not always reliable. The need for someone to prepare and study the effect of this serum in a large number of cases occurring sporadically and in different epidemics, particularly under field conditions, became apparent during the earlier studies. This has been done through the beneficence of The Mayo Foundation, and in this paper I wish to report on the method of the preparation and the use of poliomyelitis antistreptococcus serum, and to analyze the results obtained in cases observed in consultation with family physicians during two epidemics, and in cases reported to us by physicians to whom the serum was sent on request.

The serum used was from horses that had been immunized by the injection in increasing amounts of, first, the dead and, second, the living pleomorphic streptococcus isolated from patients with poliomyelitis. The exact procedure, the source of the culture, the method of preserving specificity of the streptococcus, the interval between injections, the duration of the period of immunization and the nature of the antigen have been changed from time to time, as our knowledge regarding its effect in treatment and its agglutinin and precipitin content increased.

In previous publications, it has been emphasized repeatedly that the pleomorphic streptococcus of poliomyelitis which appears to have etiologic significance often loses its specificity promptly on artificial cultivation. In order to prepare curative serum, therefore, it is important to use for immunization strains freshly isolated from patients with poliomyelitis or from the brain and cord of monkeys that died following the inoculation of virus. The serum used during 1917 was prepared in this manner. The seasonal variation in the incidence of poliomyelitis, the expense of passing virus successively through monkeys and the difficulty experienced in isolating the streptococcus, particularly from the brain and cord of monkeys paralyzed by the adapted virus, and the long period of immunization necessary for the production of suitable serums make this method impracticable. Since the streptococcus, as well as the virus, was found to live for a long time in brain and cord preserved in 50 per cent glycerol, it occurred to me that glycerol might preserve the viability and specificity of freshly isolated cultures of the streptococcus. I have since learned that this is true. Viability and specificity of the streptococcus may be preserved for a long time by making dense suspensions in 50 per cent glycerol, or preferably in two parts glycerol and one part saturated sodium chloride solution in water. The serum used in the treatment of the cases included in this series was prepared almost entirely by intravenous injections of the streptococcus preserved in dense suspensions of glycerol sodium chloride solution. Great care was exercised in selecting the strains of the streptococcus for immunization. Only those strains were considered suitable which, on isolation, possessed typical morphologic and cultural characters, which were agglutinated specifically by heterologous serums or whose extracts in sodium chloride solution gave a specific precipitin reaction and which produced flacoid paralysis in rabbits following intracerebral inoculation.

The injections of the serum in the cases included in this report were made intravenously or intramuscularly. The inherent toxic effects of horse serum when given intraspinally precluded this method of administration. The indications as to the exact amount for a single injection and the number of injections were determined in individual cases by the age of the patient, the severity of the attack, the duration of symptoms, and the effects of a previous injection. The return of fever, and high pulse rate twenty-four hours after an initial drop, which was common, and the return of symptoms referable as to the central nervous axis (irritability, twitchings, pain in extremities, rigidity of neck, and so forth) after a primary disappearance or diminution, or the persistence of these symptoms, were considered indications for the need of more serum. In general, children up to the age of two years received at least 15 to 25 cc of serum, those from two to five years, inclusive, from 20 to 30 cc, those from six to twelve years, from 25 to 50 cc, and those thirteen or more, from 50 to 75 cc. We have learned that even if a child appears to have recovered fully twenty-four hours after an early injection of the serum, a second injection had better be given at that time, for in several instances recrudescence with paralysis developed when one injection had seemed to be sufficient. If no apparent benefit followed three or four daily injections in cases in which paralysis had developed from several days to a week prviously and the temperature had returned to normal, further use of the serum was not considered of value.

When the serum was given intravenously, it was previously warmed to body temperature and was injected at the rate of 1 cc each minute, but when given intramuscularly or subcutaneously it was injected more rapidly. The interval between injections was usually twenty-four hours, but in urgent cases the injections were sometimes repeated every twelve hours. The usual precautions regarding hypersensitiveness to horse serum were taken before therapeutic injections were given, and parents were told of the serum reaction which was prone to occur later.

Altogether, the results in 1,113 patients with poliomyelitis who received serum and in 278 control untreated patients are elucidating. The mortality rate was much lower in the treated than in the control group, particularly when the serum treatment was begun early, even if there were bulbar symptoms. This was true in each of the four age groups (up to five years, from six to ten, from eleven to fifteen, and sixteen years and more), in each of the five years from 1921 to 1925, as well as in each epidemic studied. Of the 1,113 patients that recovered 1044 received what was thought to be adequate amounts of serum at a time when it could do good, during the years of 1921 to 1925. The mortality rate in the entire series treated was 8.7 per cent in contrast to 29.5 per cent of the 278 in the control series. Of 267 patients who were not paralysed when serum treatment was begun, six (2.2 per cent) died; of 157 patients who were slightly paralysed, ten (6.3 per cent) died; of 176 patients moderately paralysed, eleven (6.2 per cent) died and of 444 patients with marked paralysis, sixty-four (14.4 per cent) died. The incidence of marked residual paralysis was also much lower in the treated patients than in the controls and in proportion to its early administration. Thus marked residual paralysis was shown by six (2.6 per cent) of 232 patients without paralysis at the time the serum was first given; by three (2.4 per cent) of 127 patients with slight paralysis; by nine (6 per cent) of 150 patients with moderate paralysis, and by seventy-two (22.7 per cent) of 317 patients with marked paralysis. This is in marked contrast to the incidence of 28 per cent of the 177 control patients with marked residual paralysis that did not receive serum.

The incidence of the more severe initial symptoms, the average cell count, and the incidence of initial bulbar types of the disease were somewhat higher in the treated cases than in the controls. The age incidence was about the same in the two groups. The good effects of the serum occurred independently of spinal drainage. The results in the patients treated by others are in agreement with results in this and in previous studies, as regards mortality rate, incidence of residual paralysis, and bedside impressions concerning the early good effects of the serum. The number and variety of the patients treated and the control observations justify the conclusion that the poliomyelitis antistreptococcus serum is of value in the treatment of acute anterior poliomyelitis.

THE EPIDEMIOLOGY OF POLIOMYELITIS*

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In studying the symtoms of any disease we are interested usually in something more than learning to make a diagnosis. Our aim is rather to arrive at a basic understanding of the disease, so that eventually we may be enabled to do something to cure or at least to alleviate it. Similarly, in studying the epidemiology of a disease, it serves no purpose merely to describe its epidemiological peculiarities. The aim here also is to so interpret the facts as to acquire a better understanding of the nature and spread of the disease, in the hope that this knowledge may be applied to its control.

To form such a conception of poliomyelitis it is necessary to draw on two sets of facts, those derived from experimental studies, and those collected by observation of the distribution of the disease as it occurs in nature. And for interpretation of these facts, it is often necessary to make comparisons with other diseases of better known epidemiology.

As the result of experimental studies of poliomyelitis some facts and inferences are well established while others are still in doubt. Dr. Rosenow has presented to you the view that poliomyelitis is caused by a pleomorphic organism which, in one stage of development, has morphological and cultural characteristics identifying it as a streptococcus, while in another stage it passes ordinarily bacteria-proof filters. However, as he has frankly stated, many students of the subject are not prepared at this time to accept this organism as the specific cause of poliomyelitis, being not convinced that the experimental infections produced in animals by injection of the cultures are true poliomyelitis. It would serve no useful purpose to debate these unsettled questions here. Leaving them aside, to be settled as they assuredly will be in due course of time, there remain other observations on experimental poliomyelitis which, to the best of my knowledge, have not been brought into question; and the view which I wish to present of the epidemiology of poliomyelitis will be based on these facts, which are as follows:

(1) Certain tissues and secretions from human cases of poliomyelitis, when injected into the monkey, produce in that animal a disease which clinically and pathologically is essentially identical with poliomyelitis in man. Whatever doubts there may be of the identification of experimental poliomyelitis in other animals, there is no serious question about its identification in the monkey.

(2) This experimental poliomyelitis can be transferred from monkey to monkey by inoculation through an indefinite number of passages; and, as has been abundantly proven by filtration experiments, the specific agent readily passes through filters which hold back ordinary bacteria. Hence, it is to be inferred that the specific cause

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

of poliomyelitis is a living organism, classed among the so-called filterable viruses. Although this micro-organism may be cultivated *in vitro* under special conditions, it can be identified with certainty only by the effect it produces when inoculated into monkeys.

(3) By inoculations of the monkey it has been shown that this virus is present *post mortem* in the brain, spinal cord, various glandular tissues and the naso-pharyngeal mucosa of persons who have died of poliomyelitis. It has also been demonstrated during life in the nose and throat secretions, and less frequently in the intestinal secretions of cases of poliomyelitis; and at times in the nose and throat secretions of individuals showing no indications of poliomyelitis but who have been associated with cases of this disease.

(4) Monkeys may be infected experimentally by inoculation of the virus directly into the brain or into a nerve trunk; also, but less constantly by intraperitoneal injection. It is of special epidemiological importance that infection in monkeys may also be caused by swabbing the virus upon the nasal mucous membrane, whereas they are rarely infectible by intravenous inoculation or by feeding.

(5) Monkeys which have survived one experimental infection are found thereafter to be quite definitely immune; but immunization with killed virus has not proven effective, and no method of immunization has yet been devised which is applicable with safety to human beings.

The above facts would seem to establish quite definitely that poliomyelitis, as occurring in man, is a specific infection conferring definite immunity, and to indicate that in nature the infection is spread directly from person to person, probably by the respiratory secretions. Another conclusion of great importance is that the virus may be present on the mucous membrane of a person without causing symptoms of disease. Although it has often been suspected that poliomyelitis is primarily an infection of some of the lower animals, the virus has never been found in nature except in immediate association with human cases and carriers, and it is believed to be spread only from human sources.

In the natural occurrence of poliomyelitis the general fact which has been difficult to reconcile with the experimental evidence is that the distribution of the disease in nature has not conformed to pre-conceived ideas of how a contagious disease would be distributed. It is, however, well proven by experience, that diseases which are directly transmissible from person to person may and actually do have very different distributions in nature. For instance, measles, diphtheria, pneumonia, influenza, tuberculosis and cerebrospinal meningitis are all, so far as known, transmitted in essentially the same way. Yet, their distributions in nature, their rates of prevalence, their apparent contagiousness and many other epidemiological features, are widely different. Hence, the premise that poliomyelitis is directly transferable from person to person does not, by itself, justify any definite deduction as to how the disease will be distributed in nature.

Sketching only briefly the principal epidemiological characteristics of poliomyelitis, the disease has been known to physicians for approximately one hundred years, and doubtless has existed much longer than that. During all this time it has occurred over a wide area, at least throughout Europe and the United States, and probably in other countries. Prior to about 1870, however, it was known only as a rare, sporadic disease, occurring here and there in single cases, showing no tendency to spread. Then, beginning about 1870, little local epidemics began to be reported in the medical literature. Decade by decade these little outbreaks became more frequent and larger until, in 1905, there occurred in Norway and Sweden an epidemic of at least 1,500 cases, spreading widely over these two countries. Since that time epidemics of greater or less extent have occurred in practically all parts of the world, so that we may speak of poliomyelitis as having become pandemic. In the United States the most extensive epidemics occurred in 1910 and 1916, the total number of cases in the latter year being probably in excess of 30,000. Since 1916 the disease has been generally less prevalent in the United States, but sporadic cases and local epidemics have continued to occur every year, and in at least two years, 1921 and 1927, there have been rather extensive epidemics.

The disease occurs at all seasons and in all climates, but it prevails principally in summer and autumn months, and has been more prevalent in the temperate zones than in the tropics. In the United States the major epidemics have been mostly in the northern half.

At present poliomyelitis occurs sporadically, in local epidemics, and in widespreading outbreaks. But even in epidemics it is characteristically a disease of low prevalence, seldom attacking more than one or two per thousand in any large population, while it frequently happens that only one or two cases are reported in a whole country. Notwithstanding this low prevalence, an epidemic tends to die out quickly in any given area, and areas which have been visited by a severe epidemic remain thereafter more or less immune for some years. This feature has been strikingly exhibited in Sweden.

This characteristically low prevalence means that poliomyelitis is a highly selective disease which, in passing through a community, picks out only here and there a person to attack. However, some kind of selection is characteristic of all infectious diseases, and the puzzling feature of poliomyelitis is not the mere fact that it is selective, but that the basis of its selection is somewhat unexpected. Thus, it might be expected that a directly communicable disease would be rather highly prevalent in persons known to be exposed to infection, and conversely, that most of the cases would be in persons who had been demonstrably exposed; but neither of these expectations is fulfilled in poliomyelitis.

On the contrary, it is found that of those who contract poliomyelitis, very few have been in traceable contact with previous cases. For example, in a number of carefully studied epidemics, less than 25 per cent of the cases have shown any kind of traceable contact, direct or indirect, with any previous case. In the remaining 75 per cent the most careful investigation has failed to discover any traceable contact, and in many instances no contact with any previous case could have taken place except through a circuitous chain of intermediaries. Hence, it may be concluded that infection is usually contracted from concealed sources, presumably from unrecognized cases or from carriers, and that these concealed sources are fairly widespread in a community where the disease is epidemic.

Again, if the disease is directly transmissible, those who live in the house with an acute case must be intimately exposed to infection. Yet it is comparatively rare to find more than one case in a family. To this rule there are exceptions, for in some intense epidemics multiple cases in the family have been common; and their frequency depends to a considerable extent on whether abortive and suspected cases are included in the reckoning. Still, as a general rule, multiple cases are much rarer in poliomyelitis than in diphtheria, scarlet fever and measles. The explanation which suggests itself is that relatively few people are susceptible to poliomyelitis, and that its selective incidence in nature is determined largely by the distribution of susceptibility among those who are exposed.

Concerning the kind of people who are selected by poliomyelitis, the well-to-do and the cleanly seem to suffer in about the same proportion as the poor and the uncleanly; and no clear association has been established between the occurrence of the disease and previous state of general health, nutrition or habit. Certain facts, however, are quite definitely established. First, children are attacked much more frequently than adults, the attack rate being highest at ages under 5 years, and declining rapidly at highly ages. Next, epidemics have usually been more severe in small towns and country districts than in large cities, and in cities the suburban districts have frequently suffered more severely than the more congested central areas. A third fact of importance is that the relative immunity of adults as compared with children is much more striking in large cities than in the country. For instance, in New York City, in 1916, the ratio of cases in children under 5 to cases in adults was 64 to 1, whereas in the Iowa epidemic of 1910, which was principally rural, this ratio was 6 to 1.

These features of poliomyelitis find some analogies and a possible explanation in the epidemiology of such familiar diseases as measles and diphtheria. Both of these diseases are directly transmitted from person to person; and, like poliomyelitis, they are selective in that they usually occur in children. The reason for this in measles is obvious, since one attack confers immunity, and the great majority of persons past 10 years of age have already suffered an attack and become immunized thereby. The chance of escaping this immunization in early life is greater in the country than in a large city, hence measles in adults is relatively more common in rural than in urban populations, just as is poliomyelitis. Also, the most intense epidemics of measles occur not in large cities but in the country, for the obvious reason that in large cities the population is kept highly immunized by the endemic prevalence and frequently recurring small epidemics of the disease.

In diphtheria similar facts require a somewhat different explanation. Not more than 10 or 15 per cent of adults give a history of having had this disease; hence, the relative immunity of adults is not accounted for by prior attack of clinical diphtheria. However, it is demonstrable, by means of the Schick test, that a considerable proportion of people who have not had clinical diphtheria have sufficient antitoxin in their blood to render them immune; and there is good reason to believe that this is a specific immunity, acquired as the result of previous infection with the diphtheria bacillus, but without symptoms of the disease. The principal reasons for this belief are: that bacteriologically demonstrable carrier infections with the diphtheria bacillus are sufficiently common to account for the observed prevalence of immunity; that the proportion of immunes increases with age, just as in measles; and that, at any given age, the proportion of immunes is higher in city dwellers than in rural populations. So, with the aid of bacteriological examinations for the identification of carriers, and Schick tests for identification of immunes, we are able to paint a fairly clear picture of diphtheria as an infection which is very highly prevalent, but which does not necessarily cause the disease, the more usual result being establishment of immunity without symptoms of illness.

Does a similar explanation apply to the epidemiology of poliomyelitis? At first thought this suggestion may seem extravagant; but taking into consideration all that is known about the disease the theory which seems best to fit all the facts is that poliomyelitis is actually not a rare but a common infection, possibly as highly prevalent and as readily transmissible from person to person as measles, but that the infection usually runs its course without causing recognized symptoms of the disease, and that these sub-clinical infections are an important factor in establishing immunity.

For the present this view of the epidemiology of poliomyelitis is based to a large extent on indirect evidence, as we lack simple means for testing immunity to poliomyelitis and for investigating on a large scale the frequency of carriers. If and when such means of observation are developed we may expect that they will afford direct evidence either for or against this theory. Or it may be that new light will be thrown on the subject from some other direction. In the meantime, we can only base our views on the facts that we have, and though other interpretations have been offered, I think it is correct to say that the view which has been presented is the one which is now most generally held by students of the subject.

If the infection of poliomyelitis is as prevalent as has been inferred, the isolation of known cases and their immediate contacts offers little hope of effective control, since the carriers who will be left at large will probably greatly outnumber those that may be isolated. This does not mean that isolation of cases and known contacts is necessarily useless. On the contrary, a known case of poliomyelitis is a known focus of danger, and though cases among immediate contacts are relatively rare, still they are much more common than in the general population. Hence, it would seem to be obligatory to give the public the benefit of whatever protection isolation may afford, even though it be admittedly a small protection. There is also the possibility that exposure to a casual carrier of the virus may be less dangerous than exposure to an actual case of the disease. As regards poliomyelitis this suggestion is altogether hypothetical; but it is at least reasonable, and is supported by some evidence in the epidemiology of diphtheria. Also, we may at least suspect that different strains of poliomyelitic virus may be of different virulence and that continued systematic isolation of the frank cases may tend, in the long run, to limit the prevalence of the more virulent strains.

Although there are sufficient reasons for practicing isolation this should by no means be the only measure of attempted control. It is probably at least equally important, in the absence of an epidemic, to keep young children as far as possible out of contact with the general public, and to keep children's institutions in actual rigid quarantine, as was done in New York City in the epidemic of 1916, and apparently with some measure of success. A further measure, perhaps of greater importance than all others, is to establish and maintain an efficient organization for expert after-care of the paralyzed cases, limiting so far as possible the damage done and giving the victims the best opportunity for rehabilitation. This, however, is a subject which will be discussed by another speaker.

REHABILITATION OF FUNCTION AFTER POLIOMYELITIS

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There are three distinct stages in every case of infantile paralysis and each is rather sharply outlined.

The first stage lasts from the beginning of the disease to the disappearance of muscle soreness. It includes the onset of the paralysis.

The second or convalescent runs from the subsidence of all or most of the accompanying muscle tenderness or soreness and includes the time in which all improvement takes place in the paralysed muscles. This is really the most dangerous and important time, when the future welfare of the patient is considered.

The third stage extends from the end of the second stage through life, when no longer does any spontaneous repair or improvement of function take place.

Because of the fact that up to the time that the second stage of infantile paralysis begins and the whole attitude and treatment is largely medical, this paper will take up the consideration of the rehabilitation phases of treatment at this point. It is obvious that during the acute manifestations of the disease nothing should be done that will add to the destructive changes which are taking place.

These continue, as I said, until the subsidence of the muscle soreness, and last usually from one day to six months, with the average at two months. As has not been said, by the previous speakers, complete rest is essential and it is patent that if anything in the way of manipulative treatment is attempted or carried out at this time, electrical, massage, or active or passive motion we will not be fulfilling an essential requirement upon which all are agreed. Some of the inflammatory and exudative processes which are taking place will be increased and could not help increasing the terminal, final disabilities. The handling of the family and the relatives at this time is often difficult, but nothing should induce one to swerve from insistence upon the accepted necessity for complete and effective rest. Much pressure will be brought to bear from every source under the impression that something manipulative must be done to prevent atrophy and joint stiffness but nothing but harm will come as no ankyloses develop during this first period.

With the disappearance of all, or nearly all, of the muscle soreness, we enter the second stage and an entirely different situation presents itself. Now for a period of about two years, all of the recovery in restored function in the paralysed muscles which ever will occur, does at this time. In some cases there will be almost complete restoration, in others less, and in some little, though in nearly all a partial restoration of function.

When we realize that we have to deal with a general, systemic toxemia as well as the cord and brain damage, an important part of our problem is the general health. Nothing specific need be said about its treatment since the general measures for any case of the kind applies. You will recall in cases that you have seen that they are pale, listless, and undernourished, do not do well, and are subject to severe types of intercurrent diseases for at least a year or two. It thus becomes an important point, and diet, plenty of sleep, fresh air and sunshine will aid much.

We now have groups of muscles more or less completely paralyzed from an injury to the ability of the nerves to conduct the impulses which produce the desired movements. Autopsy shows that the muscle itself, at this stage, is not at fault but that the motive impulse is unable to reach it. There is, as I said, during this period of two years, a distinct tendency for more or less recovery to take place spontaneously, due to the fact that nearly all of the injury impairing the conductivity of the individual nerve fibres is caused by an exudative pressure. Naturally, upon the absorption of this exudate a few or many or all of the nerve fibres recover their power to function, that is, conduct motor impulses to the muscle fibre which each supplies.

It is self-evident that there is nothing of which we know in the medical line that will directly remove these deposits which are causing the pressure any more than there is in cerebral hemorrhage. Nor is there any mechanical means, surgical or other, by which we are able to do it as we would with a fibroid tumor causing pressure. Nevertheless, with a clear idea of the pathology in mind much can be actually done, but more prevented.

It is a truism, demonstrable, that nothing destroys muscle faster than non-use or, as an article in one of the health magazines put it tritely, "Use 'em or lose 'em''. In a completely paralyzed muscle from infantile paralysis no active use of the particular muscle as exercise can be performed by the patient himself but passive exercise by massage can be given. There will be no question of benefit. The circulation, which is always bad for years in the paralyzed parts, can be augmented markedly and the muscle fibres saved from or retarded much, in, the process of atrophy and final destruction which follows non-use. Heat, in almost any form, is also an advantage and the various lights are excellent. It has been proven repeatedly that a paralyzed muscle will respond, to efforts at movement, better immediately after the application of this or other form of heat than without its use. With some of the finest, especially trained orthopedic masseurs this is always used. Electricity is often used and recommended much, by some, but even galvanic, which is conceded to be the most potent, is open to question and a series of experiments carried out by Dr. Lovett in the Children's hospital in Boston seems to prove that it does not offer much of value. With the usual painstaking care that is used there, cases with bilateral affections, one side would be treated daily with galvanism for some weeks without the knowledge of the nurse who was giving the massage. At the end of that time she would be asked to designate which side had made the more rapid improvement. In no instance was she able to decide that there was any difference in the rate of gain. Nevertheless, it may improve the circulation to some extent and that seems to be the most that can be done in the way of help.

This brings us to the question of damage instead of benefit that may be wrought by unskilled, unwise, and misconceived efforts at helping to restore function by those untrained, unrefined, and crude in method. And I believe that Osler is right when he says "that at this point" the period for two years when nature is doing much to re-establish function, "a competent orthopedist should be called to assist in the care"

The harm is undoubtedly done by producing fatigue. It may be harmfully done by an unbelievably small amount of unwise encouragement to effort on the part of the patient or to brutal mauling by the attendant.

Crile has beautifully proven that fatigue can actually impair the central nerve cells themselves no matter whether it may be brought about by over use from fear, anger, or muscular effort. If carried to a sufficient point they may even be damaged beyond recovery and it would then make no difference how perfect the conducting fibre in the cord might be or the muscle itself, its ability to function would be forever lost. With infantile paralysis the conducting fibres between the center in the brain and the muscle have been damaged. This may be complete or partial or permanent or temporary depending upon the severity of the acute disease. When we realize that each muscle is a bundle of entirely separate, individual strands of muscle fibres which function in unison but as individuals and that the thing that makes them each contract is an impulse transmitted over a nerve from the brain center, and when we also remember that this nerve is a bundle of separate fibres each one of which goes to its separate muscle fibre we can easily picture just what we are dealing with in these paralyzed muscles.

If a muscle, for example, was composed of 20 separate strands which all worked together to perform the function of that muscle in doing its labor and if ten or fifteen of the fibres stood by and refused to contract when the order was sent from the brain, because they failed to get the command, owing to the destruction of their separate lines of communication from the injury to the nerve, the remaining few would be called upon to do the full duty of the whole number. Five individuals might be asked to do what twenty were normally accustomed to perform and the result would be an overload that would soon produce a fatigue that could even destroy the few remaining fibres from overwork. Even the cerebral motor centres are capable of destruction in the same effort to a point where they never recover as we see in occupational nuroses, writer's cramp, and similar well known conditions.

Cases have actually been observed where a muscle has recovered some function after having been paralyzed and on the part of the patient or parents or attendant has been injudiciously and unwisely asked to repeatedly perform, to show others how it had improved and been totally and irreparably lost, never to regain any function from the destructive fatigue.

If this is true and clearly grasped the family physician, who first sees these cases and often has to outline their care, will not himself, nor will will be allow others, to do more harm than good. Rubbing and manipulating, joint replacing by non-medical, and ordinary masseurs and physiotherapists or parents, will not be allowed to prevent or undo what nature alone would try to accomplish if given time and opportunity.

If it is possible to develop muscles to two or three times their original strength by persistent and judicious training, as we know it is, and see every day in athletes of all kinds, then why should it be impossible to increase the five muscle fibres, left in our illustration above, to two or three times their original strength even to the point where the five would equal and perform what the original twenty otherwise would have done during life. If a track athlete or a football player or a prize-fighter is to be made at his best only bv painstaking, carefully coached, intelligent, trained supervision over long periods, just apply the same care to these unfortunates and there will be few mistakes made and much benefit.

This brings us to the last thing which I wish to mention and that is the prevention of deformities that will surely result except from an appreciation of their cause and intelligent prevention.

One is postural and the other again our fatigue injury from opposing, well, so now the stronger muscles.

Take our muscle of 20 fibres, for example again, on the outside of the leg opposed by another of 20 fibre strength on the inside. These will normally balance under a slight tonic contraction and hold the foot continually in its proper relative position. But, as we have said, now those on the outside have only five fibres left, or are only one-fourth as strong as those on the inside. Just as surely as 20 will outpull 5 will those on the inside turn the foot until we have a severe club foot and if left long enough nothing but a surgical operation will suffice to correct. It could have been prevented and should have been, and the attendant physician is responsible if the operation becomes necessary. A comparatively simple brace attached to the shoe will suffice. This is equally true with any other group and the larger per cent of the third stage orthopedic deformities can be avoided.

Dependent, more or less, upon this paralysis are the severe and often hideous deformities which are purely postural. Any position maintained long enough will result in the end in contraction, called adaptive shortening, so that it is impossible longer to move, even passively, the member through its normal arc. Many of the worst cases, even spinal curvatures and thigh contractions, are thus produced. In fact, we see many cases due to the same cause in otherwise normal school children. Needless to say that careful, persistent attention should be given and the family well instructed as to the dangers.

If Frost can help us control the epidemics and Clarke teach us to make an early diagnosis and Rosenow give us an efficient serum, there will not be much left for the orthopedist to do in one of the largest fields in which he is now needed. Let us hope that the time is here when infantile paralysis will be robbed of its terrors as has been done with so many of the fatal and terrible diseases of childhood. Then it will not remain to cripple and humiliate through life.

I shall purposely not go farther for the operative and corrective field in the third stage after it has become chronic, is not so applicable to a discussion of this kind, and is so voluminous and technical that an orthopedic section would be the place to present any phase of its handling.

DISCUSSION

J. E. MALSTER, M. D., (Stromsburg): Twenty years ago we had an epidemic of poliomyelitis at Stromsburg. I had under my own care fifty-five patients. Seventeen were paralyzed and five recovered, and no deaths.

I noticed one thing in my experience in making a diagnosis—that in some of these cases it is almost impossible to do so. I went to one family where the woman was nervous about her children. I stayed for a while and could not find a sign. Three years after that I went into that same family on a confinement case. I said to the mother, "That child limps." Sure enough, there were atrophied muscles in the leg.

One of the symptoms is to watch the child and see if it is looking up and over that way. I would tell the people the child had poliomyelitis. They did not believe it. The child would get paralyzed and then I said, "Now you believe it."

One child could not bend its head over. Another sign I have noticed is, if you can find the child asleep, you will notice it will jerk. Then you are more apt to suspect the trouble when there is an epidemic, but you might get fooled. Two months ago I went into a family that had a child who could not walk. I thought we had a case of poliomyelitis. The next afternoon he was up running around.

In the treatment of this disease, at that time it was rare in this state. I simply went by a little common "horse sense." I figured I had a brain stimulation. We should keep away from brain stimulants and allow the kidneys and bowels to carry off the poisons. That was my treatment. I believe I have had fewer deaths in this disease for the number of cases than any I have read anywhere.

Another physician had the case of a man thirty years old. His legs were paralyzed. I told him I wouldn't take the case. He said if I would take the case he would get well. I said, "If you will take Dr. Anderson as a partner, I will take it." The fellow lived four hours. We did quick work.

As far as contagion is concerned, this epidemic started on one street where the children were playing together. After a while the children on another street got it. We quarantined. One family had ten children. In some families all had it. It would average over half of the children in the family.

W. H. Wilson, M. D., (State Board of Health, Lincoln): I do not want to take up much of your time, because I am like those who have talked in the symposium—with all deference to them: I do not know much about it. You know when you get it and know you get the symptoms. You want to make an early diagnosis. Of course that it important as in all diseases.

What I want to call to your attention is that during the past year there was a tendency to considerable more poliomyelitis in the state, and especially in the country at large, than for some years. In Nebraska we only had one case reported to the Board up until August. It was reported in January. In looking over the death record, I found one case reported as dying as the result of poliomyelitis in June. It had not been reported to the Bureau until after its death. In August we had three or four cases reported. A large number were reported in September and a large number reported in October. In November it began to fall down. In December there were comparatively few cases reported.

In 1927 there were 115 cases reported to the Bureau. Undoubtedly there were a good many more cases of poliomyelitis in the state than 115—some probably unrecognized, and others not reported. We do not pretend to get as complete reports as we should like. Of the 115 cases reported, there were 22 deaths.

In line with what Dr. Malster said, I did a little public health work in the state in 1909. Up to that time. I had understood from textbook writers that polio was not a contagious disease, or not specially infectious. It was more or less sporadic. My first experience was when I was called to Stromsburg. I saw with Dr. Malster and Dr. Anderson some of the first cases I ever saw, except a sporadic case once in a while.

That epidemic of 1909 spread over this state, here, there, and yonder. The principal storm centers were in Polk and York counties. I want to say to you right now, Nebraska was the first state in this country that declared poliomyelitis was contagious, and we placed quarantine on it. Whether we did much good or not I can not say. We were a little late doing it. We had been taught the disease was not contagious.

With all due deference to some things said this afternoon, I want to say this: I am not very forcibly impressed with this serum. Until we know the specific germ, it seems to me we are simply going on an empiricism when we use a serum of that kind. The advocates of it indicate it does not do any special good unless you make a diagnosis before paralysis sets in; that it will not prevent paralysis after the paralysis has set in.

It has been conceded it is not always easy to say, "This is a case of poliomyelitis" when you first see it; or "That one is not." It starts like so many other acute diseases of childhood.

In the epidemic of 1909, the history was they did not realize the child was sick until there was an arm or leg not useful. Prior to that they had not called a doctor. The records, so far as I can verify them, show that while it is considered as a disease of early childhood, young adults had the disease. The records show the mortality in this state has been greater in young persons twelve to sixteen than in the younger children of three or four. Why that is I do not pretend to say. I throw this out to get you to think about it.

If you find the serum will do good, make a diagnosis and use it. God knows we need it! Last fall we were having appeals from mothers: "Isn't there something to immunize our children against this disease?"

We had to confess we did not know.

DR. FROST, (closing): I think I have nothing to add worth while, except to express my particular appreciation of Dr. Clarke's presentation of the symptomatology, which I applaud all the way through. It is of course possible to make a diagnosis in a certain number of cases before the onset of paralysis, providing you are looking for it.

Just one point Dr. Clarke mentioned which struck me he did not emphasize quite enough. That was the diagnostic value of disturbances of reflexes, particularly the patellar. An enlarged or diminished reflex may mean little. We find cases where the reflexes are different on the two sides. The complete loss of reflex on one side when the other jumps is quite a striking picture. I think tremor and weakness are signs which you won't find unless you look for them. But at the same time, one can not say you can depend on making a diagnosis before the onset of paralysis.

We do have cases in which paralysis is the first symptom. I happened this winter to see a group of cases in a boys' military school in which there were five cases. Not one had the slightest constitutional symptoms. The first symptom was, the boy suddenly developed paralysis. So that we do have all kinds of exceptional cases.

In connection with Dr. Wilson's comment on the increased prevalence of poliomyelitis in this state in the past year, that has been more or less general through all parts of the United States. I said we had a general decrease since 1916, but in 1925 and 1927 we have had quite considerable epidemics. I hope 1928 is headed down, and not up.

I wish to thank you all for your discussion.

(A rising vote of thanks was given to Drs. Frost and Rosenow for their addresses.)

DR. CLARKE, (closing): I realize just exactly what Dr. Wilson has said. There is no question about it. I do not take any exception to what he said. I want you to put it up to yourselves. If one of your youngsters became suddenly ill with sore throat, fever, and rigidity of the neck, what would you do? You would do the best thing you could, whether Dr. Rosenow's serum, convalescent serum, urotropin, or what not. The only contention I have to make at the present time, insofar as Nebraska and this vicinity are concerned, is that the Rosenow serum should be available. We can only in occasional instances get convalescent serum.

My experience with the Rosenow serum has been fortunate. I have thought I have been able to make a diagnosis before the onset of paralysis. I ask all of you to endeavor to make an early diagnosis. You can in a considerable number of cases if called sufficiently early, and if you will give a little more attention to these minor, unimportant illnesses of children. If you have the least doubt in your mind whether or not it is poliomyelitis, give the child the benefit of the doubt. The Rosenow serum does no harm outside of a possible urticarial eruption. You should not sit by a bed and do nothing.

I think all were glad when the scarlet fever serum came in. We realized the futility of what we were doing and how difficult it was to do anything. When the serum came in, didn't we grasp it with open arms?

We do not know why quinine cures malaria. The Doctor says it is an empiricism. Maybe it is. I do not know why potassium iodide helps syphilis, but it does. It may be Rosenow's serum, or something else, will help in poliomyelitis. Let us use Rosenow's serum and use it quickly.

SPECIAL ARTICLE

PROGRESS OF SURGERY

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THE THYROID

Based on an intensive study of 1000 cases, Hertzler(1) concludes that the adolescent, the colloid, the non-toxic and the toxic adenomas, and the exophthalmic goiters are all different stages of one disease process. Colloid goiters showed early evidence of new gland formation. The formation of lobules within the gland begins with the first proliferation of cells. Bosselated goiters are not different in structure than those uniform in outline, except that the process is more advanced. The toxic stage is always associated with increased proliferation of the gland. The so-called exophthalmic goiter differs from the so-called toxic adenoma in degree and in rapidity of development, but not in kind.

Rienhoff and Lewis(2), working at Johns Hopkins, found that in 92 per cent of nodular goiters with hyperthyroidism the nodular elements did not represent true benign neoplasms or adenomas but are the result of long standing or frequently recurring overactivity of the thyroid gland. Given hyperthyroidism clinically, one always finds hypertrophy and hyperplasia of the thyroid parenchyma regardless of whether the gland is clinically nodular or the process is diffuse. Hyperthyroidism, pathologically may be divided into two phases; an active phase associated with the histologic changes denoting hypertrophy and hyperplasia, and an artificial or spontaneous, less active phase associated with involution of the hyperplastic parenchyma. Associated with artificial and spontaneous remissions in cases of extreme hyperthyroidism or exophthalmic goiter, nodules or clinically benign tumors are formed during involution of the gland; these are not true neoplasms, but are disintegrating parenchyma.

Lahey(3) thinks that drainage is used too often in thyroidectomy operations. In the last two years he has used it in only 20 per cent of his 1810 cases. He considers drainage necessary only for technical reasons—to take care of uncontrollable oozing, to eliminate dead spaces, and when the superior mediastinum is opened. Without drainage there are no more thyroid reactions than in cases with drainage. If drainage is used he brings it out at the external angle of the incision.

Smith, Clute and Strieder(4) studied the postoperative results of 100 consecutive cases of hyperthyroidism operated upon at the Lahey Clinic. Relief from symptoms of hyperthyroidism was complete in 92 per cent, and the remaining cases were all much improved, confirming their belief that the proper removal of sufficient thyroid tissue will cure the patients of the symptoms of hyperthyroidism.

Fifteen cases developed myxoedema. This high number is due to the fact that they remove more of the gland than previously and to the administration of iodine.

They describe acidophilic cells in the hyperplastic glands of all the cases which post operatively developed myxoedema. It is not an absolute criterion, however, for occasional cases of persistent hyperthyroidism containing these cells in the original speciman have basal metabolism +10 or higher a year after operation.

In a clinical study of 457 cases of malignant disease of the thyroid at the Mayo Clinic, Pemberton(5) finds: In 87 per cent there was definite evidence of a preexisting benign goiter. The malignant tumors were classified as sarcoma in 1 per cent, diffuse carcinoma in 25 per cent, carcinoma in fetal adenoma in 38 per cent, and papillary adenocarcinoma in 30 per cent. Even in the absence of the characteristically hard, irregular, nodular tumor fixed to the neighboring tissues, malignancy should be suspected when there has been recent rapid growth, with or without associated hoarseness and paralysis of a vocal cord.

Metastasis occurs through the lymph and blood. It occurs frequently and often early in the course of the disease. The most frequent sites of metastasis are: Regional lymph nodes 69 per cent, lungs 24 per cent, chest and mediastinum 16 per cent, and bones 6 per cent. Operation supplemented by irradiation is the choice of treatment.

Of the 204 patients operated between 1907 and 1923, 66 (32 per cent) are living. Of those with sarcoma none are alive; of those with diffuse carcinoma, 21 per cent are alive; with carcinoma, in fetal adenoma, 38 per cent, and with papillary carcinoma, 48 per cent.

THORAX

Handley(6) to guard against recurrence after operations for breast cancer, uses radium tubes as a prophylactic. He inserts four 25 milligram tubes, screened by one millimeter of platinum for 24 hours. One is above the first rib near the terminal portion of the main lymphatic duct, one at the medial end of each of the first three intercostal spaces, to affect the lymphatics along the internal mammary artery.

STOMACH

In patients with duodenal ulcer suffering from pain at the time of observation, filling of the duodenal cap with gastric contents by manual pressure on the abdomen was followed by relief from the pain in thirteen of sixteen patients studied by Wilson(7). Eleven of these patients had hyperchlorhydria. Therefore, he thinks the pain is not directly due to the acidity of the gastric contents. Except for one case in which localized midgastric contraction was present, there was no relationship between peristalsis, abnormal local contraction, general tonic contraction or resistence to distention, and pain. Also as the pain was not in waves, he considers peristalsis is not the cause. The pyloric sphincter was relaxed and probably the pain was not due to overaction of its musculature.

That abnormal local contraction of the caput is not the sole cause of pain is evidenced by the constant presence of deformity of the caput even when pain is absent. There is evidence of a general contraction of the caput. He concludes that the relief of pain in duodenal ulcer is due to relaxation of the caput and that pain is due to sustained contraction of the caput.

After resection of the stomach, Glaessner(8) found in 10 cases studied in the duodenal secretion the following: Lipase decreased in two, medium amount in five, and increased in three; diastase absent in two, medium in six, and normal in two; trypsin reduced in all but two; pepsin, of course, absent in all. In most cases the ferment secretion of the pancreatic juice had undergone injury, since in only 30 per cent were there normal lipase. Diastase and trypsin were normal in 20%.

The total number of total gastrectomies reported up to 1927 is ninety. Of these thirty-four recovered. Mijagi(9) recommends a median longitudinal incision combined with a left sided transverse incision. He thinks esophago-jejunostomy is preferable to esophago-duodenostomy. Liquid food is given the day after the operation.

Nystrom and Soderberg(10) state that peptic ulcer may develop even after a radical stomach resection. It has occurred most frequently when the primary disease was in the duodenum, with next greatest frequency after ulcers in the pyloric portion, and less often when the ulceration was elsewhere in the stomach. The authors cite a case.

Lehmann(11) reports fifteen cases of gastric carcinoma with involvement of branches of the median colic artery. Rather than risk a gangrene of the transverse colon, a primary resection of that portion of the bowel was performed with the gastrectomy. Of the three deaths, two were due to an extensive resection of the pancreas. Three patients were free from symptoms five and one-half years after operation; three others, two and one-half years after operation. The average duration of life in the others was fourteen months.

GALLBLADDER

Boyden(12) gives an excellent review of the newer ideas of the physiology of the gallbladder. The chief things are the overthrowing of the older ideas that the gallbladder plays no significant part in digestion, and that it is a passive organ.

In congenital absence of the gallbladder or in animals normally with no gallbladder, the concentration of bile in the common duct is increased. The gallbladder empties by contraction of its muscles. Egg yolk is the only discrete natural food which has been found to empty the mammalian gallbladder consistently and completely. Many fat-containing foods and meats have a considerable though lesser effect.

The discharge of bile from the gallbladder is intermittent in character, the first contraction phase being the most important one. The initial acidity of the stomach, the rate at which the stomach emptied, or the motility of the intestinal tract did not affect the emptying of the gallbladder. Chronic constipation and menstruation are also without effect. A striking feature is the very short latent period of contraction—usually less than two minutes after the ingestion of egg yolk and cream. As bile in the duodenum initiates the flow of pancreatic juice this early discharge after meals is important. The human gallbladder empties the bulk of its concentrated bile during the first hour of digestion and completes its work usually before the secretion of bile from the liver reaches its maximum flow, three or four hours after a meal.

It has been definitely shown by several investigators that the gallbladder actively contracts. There is sufficient smooth muscle in the wall of the gallbladder to expel the bile. This muscle has all the common physiological characteristics of smooth muscle, including the power of rhythmic contraction, the rate being two to six contractions per minute. The gallbladder rhythm was very sensitive to chilling, anaesthesia, and manipulation of either the organ itself or the duodenum. Intravenous injections of adrenalin greatly increase the amplitude of the contractions.

McMaster and Elman in dogs, found that immediately after eating there was an abrupt increase in pressure within the gallbladder (100 to 125 millimeters of bile) and simultaneously a relaxation at the duodenal orifice of the common duct. In contrast to the abrupt emergency of bile from the gallbladder, there was no immediate increase in the flow of bile from the liver, and when it did begin it was gradual.

Spurling and Whitaker have shown that patients having had cholecystostomy never recovered the ability to empty the gallbladder—the inference being that the muscle tunic was permanently impaired.

Copher and Illingworth(13) consider emptying of the gallbladder is dependent partly upon an intrinsic muscular action, partly upon its elasticity, and partly upon the ebb and flow of fresh bile from the liver. Variations of intra-abdominal pressure play a minor role. Peristaltic contractions of the common duct have been observed in pigeons and maybe may take part in the flow of bile in some mammalia. The response of the gallbladder to a fat meal depends upon its absorption through the intestinal wall. It is not proved whether the response of the gallbladder is due to hormone action or nervous excitation. Sodium iodide is absorbed by the gallbladder wall.

Copher and Illingworth(14) have been unable to induce cholelithiasis in experimental animals either by stasis alone or combined with infection of the bile, even in the presence of various foreign bodies. They think the other factor necessary is probably intramural infection.

Simultaneous cholecystography and the determination of the excretory function of the liver, as is done according to the methods of Rosenthal, and others, is possible with the use of sodium phenoltetraiodophthalein, according to the work of Cole, Copher, and Graham(15). Thus we get valuable information in the obstructive jaundice due to malignant disease and that due to stones and inflammations. Also a guide as to operative risk is given.

Wilkie(16) has shown streptococci in the wall of the gallbladder in 42%, and in the cystic gland in 86% of cases of cholelithiasis. It is inhibited by bile and in the vast majority of cases the gallbladder bile was sterile. Bacillus coli was recovered from the bile in 6 per cent. Intravenous injection of the streptococci obtained produces a cholecystitis, even when the gallbladder is separated from the liver and omentum is interpolated to exclude infection by lymph spread from the liver, along with ligation of the cystic duct. He concludes that cholecystitis appears to be a blood born streptococcus intramural infection.

The experiments of Ivy and Oldberg(17) confirm the fact that the gallbladder of the cat and dog contracts, and that a highly purified extract of the intestinal mucosa causes the gallbladder to empty. They think the evacuation is brought about partially, if not completely, by a hormone identical with "secretin" or a new hormone which controls the tonus of the gallbladder.

In dogs, Weinberg, Wallin, and Binger(18) found that gallbladder stomach anastomosis was followed by inflammation of the gallbladder and numerous abscesses of the liver near the gallbladder. This confirms the work of Lehman and Mann.

However, this inflammation did not follow this operation in a monkey, whose manner of digesting food more closely resembles that of man.

Based on a study of fourteen thousand specimens, Mentzer(19) concludes that gallbladder surgery is fairly well stabilized at present. Cholecystectomy comprises 90 per cent of gallbladder operations today. The gallbladder should be saved, whenever possible, in obstruction of the common duct and certain liver and pancreatic conditions.

INTESTINAL

Lockhart-Mummery and Dukes(20) feel that carcinoma of the rectum is an accident happening to a previously existing adenoma. The adenomata are usually numerous and often separated from each other by several inches of mucous membrane, normal in appearance to the naked eye. The bowel may remain in this condition for many years, then suddenly may assume invasive properties recognized as cancer.

UROLOGY

Using a cystometer, Rose and Deakin(21) found the following steps in the physiology of micturition in the male: (a) Voluntary depression of the internal sphincter and prostatic urethra by the levator prostatae muscle (to a less extent by the rectourethralis). (b) Contraction of the trigonal muscle, further opening the oarifice by depressing its floor, and foreshortening the posterior urethra. (Contraction (or parasympathetic action) of the bladder wall associated with relaxation of the group of muscles of the internal orifice.

GYNECOLOGY

Rubin(22) finds that the intramural portion of the Fallopian tube in the living pursues a straight course. It is capable, like the rest of the tube of contracting and dilating. Total obliteration of its lumen is very infrequent and when present is part of more extensive tubal disease. There seems to be a sphincteric action at the tubo-uterine junction. "Isthospasm" as an entity has not been definitely demonstrated.

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THE MANAGEMENT OF CASES OF GASTRIC AND DUODENAL ULCERS*

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It shall be my purpose in this paper to present you with a rather complete resume of the methods that have proved most successful in the management of peptic ulcers, which term includes both gastric and duodenal ulcers. I make no pretense of bringing to you anything new or original, but feel that the presentation of a summary of the rational treatment of these lesions justifies the appearance of this work.

The infectious theory of the etiology of ulcers has occupied the foreground for the past decade, largely due to the work of Rosenow, who has shown the presence of streptococci in the depths of most ulcers, together with certain clinical facts which have been recognized for some time as having a direct bearing upon his conclusions. Chronic infection about the teeth, pyorrhoea, alveolar abscess, infected tonsils or sinuses are almost invaribly present. We have long known that there is a definite periodicity of ulcer symptoms, which symptoms are most manifest in the spring and fall, which is also the time when the throat and other streptococcic infections are most prevalent. Further, it has been noted repeatedly, that acute ulcer symptoms are greatly diminished and at times entirely eliminated, following eradication of infectious foci. We have also recognized the frequent coincidence of infected appendices and gallbladders, preceding or coincident with an ulcer of the stomach or duodenum. I think there can be but little argument against the well-established infectious theory of the etiology of most peptic ulcers.

It is well recognized that gastric ulcers are far more serious than duodenal ulcers, but fortunately the former is much less frequent, gastric ulcers occurring in the proportion of 27 to 73 duodenal ulcers. There are many reasons for this increased seriousness in the case of gastric ulcer, among them being the deformity of the stomach which interferes with its mobility, digestion, and proper emptying. Perforations are less frequent in gastric ulcers, but when this complication does occur, the perforation is much less likely to be protected by adhesions, and much more septic material escapes from the perforation than is the case in perforated duodenal ulcers; also the escaped gastric contents are much less sterile than duodenal contents, and hence there is a greatly increased chance of peritonitis following perforation of a gastric ulcer. Hemorrhage from gastric ulcer occurs in about the same frequency as it does in duodenal ulcer. Gastric hemorrhage, however, is often due to some type of extra-gastric lesion such as gastro intestinal, hepatic, or splenic disease; especially if the hemorrhage has not been preceded by previous history suggestive of ulcer.

One of the most important factors to be remembered in connection with gastric ulcer is the ever present danger of malignancy, which may be disregarded in the duodenal ulcer. It is interesting to note the fact that 30% of all the cancer in man is found in the stomach. Operative measures in gastric ulcer are much more extensive and consequently more serious than in the surgical treatment of duodenal ulcer, and is naturally, carried out with higher mortality and smaller degree of certainty of cure than is found in the more simple surgical measures used in the treatment of duodenal ulcers.

It is important to establish a diagnosis between gastric ulcer and duodenal ulcer because of the prognosis and the different indications and treatment of these two conditions. At the present time this differential diagnosis is not ordinarily difficult. It has long been recognized that a well taken history of the case is usually sufficient to make a definite diagnosis of ulcer in a large majority of cases; when we add to this the data obtained from the gastric analysis and Roentgen ray, the diagnosis can be made certain in probably 95% of all cases. In gastric ulcer, as a rule, the symptoms appear much sooner after eating, are briefer in duration, and the pain often disappears before the next meal, or may cease and reappear during the interval. Gastric ulcer is not so greatly eased by food as is duodenal ulcer; in fact the fear of food pain is much more frequent; also small amounts of food tend to give relief in gastric ulcer, while large amounts of food are the cause of pain. Gastric ulcer cases usually show more nausea, more belching, and more vomiting than do cases of duodenal ulcer, and the exacerbations are much more frequent in the gastric lesions. The tender point and the pain usually radiate to the left epigastrium in gastric lesions and to the right epigastrium in the duodenal lesions, and the predominence of hematemesis over melena is strong presumptive evidence of gastric ulcer over duodenal ulcer. A large number of gastric ulcers show, at operation, a posterior perforation with adhesions, usually adherent to the pancreas and occasionally to the liver or other adjacent structures; in this type of case pain in the back is one of the common findings. The x-ray evidence, in duodenal ulcer, of hyperperistalsis of the stomach, deformed cap and gastric retention of the barium meal beyond six hours is as typical as the niche seen in gastric ulcer, or as the hour-glass stomach and other deformity present with a gastric lesion.

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The historic discussion between the internist and the surgeon relative to the merits of medical treatment versus surgical treatment in peptic ulcer has, happily, largely resulted in the crystalizing of our ideas of a rational treatment of these lesions. I think that there is none of us who will dispute the logic of medical treatment of cases of duodenal ulcers which have a short history and are not obstructed, and which have no symptoms of complications. If this type of ulcer is found in an individual who has sufficient time and means to undergo the regimen of medical treatment, this is undoubtedly the wise course to pursue. I am also sure that this is the course that any of us would pursue should we find ourselves the possessor of a recent uncomplicated duodenal ulcer. In this type of lesion there are three lines of therapeutic attack. (1) The removal of the etiologic agents which have caused a lowered resistence of the intestinal wall, which means the eliminating of all foci, whether they be teeth, tonsils, appendices, or sinuses infections; (2) the lessening of the peptic activity of the gastric juice, since this activity has been shown to be the main hindrance in the healing of ulcer; this is done by the commonly accepted medical treatment, consisting of the frequent administration of alkalies and milk, cream and other bland foods. I may say that this treatment follows the principle of gastroenterostomy, by which mechanism the soda from the pancreas is introduced directly into the stomach; (3) surgical treatment has for its objective the securing of compensation for the impaired motor function of the stomach and is often indicated because of the social status of the patient (by which I mean one who is unable to spend sufficient time away from his occupation and has insufficient means to carry out a prolonged medical treatment) and because of the deformity of the duodenum due to cicatricial contraction, obstruction, bleeding, or perforation. Spontaneous healing of ulcer doubtless occurs in certain cases, but is too infrequent to be depended upon in the cause of these lesions. Malignant change practically never occurs in duodenal ulcer and this complication need not be considered in the summing up of the possibilities of peptic ulcer.

It is the opinion of the writer that a well nourished individual with a recent history of duodenal ulcer, who does not show weight loss, whose working efficiency is not impaired by the lesion, and who has no obstructive, bleeding, or perforating symptoms, does not need surgery. In other words it does not impress me as logical surgery to operate upon a hale and hearty individual, simply because, in the course of an examination an uncomplicated duodenal ulcer of short duration is found. I believe that the great majority of such cases can be successfully handled and cured by proper medical regimen, without interference with their comfort and without reducing their life expectancy. Certainly, such cases should be given the benefit of a few months of thorough medical treatment before surgery is urged.

An entirely different picture is presented, however, by the patient with pyloric obstruction, due either to ulcer or malignancy. It is in this type of case that proper and continued cooperation between the internist and surgeon, both in preoperative and postoperative care, brings the most brilliant results. These patients are acutely ill, fatigued from prolonged vomiting, under nourished, toxic, greatly dehydrated, and are extremely poor surgical risks.

The mortality in this type of case is greatly lessened by a short period of preoperative treatment in the hospital, which is just as important as the now well recognized necessity for the proper preoperative preparation in exophthalmic goitre; in fact, it is as great a folly to operate upon a case of pyloric obstruction without the proper preoperative preparation, as it is to do surgery upon a toxic goitre without the proper preparation. During this period of preoperative treatment in the hospital due attention is given to the hygiene of the teeth and mouth, consisting of mouth washes and frequent brushings of the teeth; this together with gastric lavage as often as is indicated in each individual case, twice daily, however, is usually sufficient in the average case, small bland feedings are given frequently; the fluid balance is brought up by proctoclysis of normal saline solution. If sufficient fluid is not absorbed in this manner there should be no hesitancy in introducing more fluid by hypodermoclysis or intravenously. I may say that mortality in this type of case has been reduced at the Mayo

Clinic by proper pre-operative preparation from 16½% to 3½%. It is also interesting to note that retention appears in about 17% of all cases of ulcer. It is in this type of case that tetany is most apt to occur, and is best overcome by the intravenous introduction of physiologic salt solution plus 10% of glucose in one litre of triple distilled water; as much as two to three litres may be given in this manner within twenty-four hours. In connection with the preoperative preparation of these cases, DeMartel has gone so far as to make cultures from the gastric lavage, from which sera and vaccines are prepared and used in the treatment of ulcer. In addition to this he injects, just prior to the operation, 20 cc. of antipneumococcus serum.

Gastric ulcers usually occur near the pylorus or in the middle of the stomach or posterior wall, more rarely on the anterior wall and greater curvature. Chronic gastric ulcers more than two centimeters in diameter are usually, but not always, carcinomatous. Eusterman and Rivers(1) state that gross gastric ulcers are not readily healed because of the heavy induration of the ulcer which prevents the approximation of the mucosa, and such ulcers must be destroyed by cautery, excision, or resection, to accomplish sufficient approximation and healing.

It is a well-accepted fact that gastroenterostomy is successful in curing 90% to 95% of duodenal ulcers with a surgical mortality of less than 2% and without any other type of surgery. It has been shown that gastroenterostomy alone reduces acidity approximately 30%. In gastric ulcers surgical results have been satisfactory in about 85% of the cases, with a mortality of 3½%; in about 50% of the cases which are unsatisfactory the difficulty is functional and this can be relieved by proper medical treatment; the remaining unsatisfactory results are the surgical failures. Rational habits of living following the operation, together with the elimination of focal infections are essential to satisfactory results in all these cases. However, in a certain number of cases of duodenal ulcer it is wise to resect the ulcer if it is accessible, as is often the case in a small ulcer upon the anterior duodenal wall. This form of treatment is also most efficient in the handling of ulcers which have been the seat of hemorrhage; no gastroenterostomy is necessary in this method of handling these accessible ulcers. This method as brought out and discussed by Judd and Rankin(2). In addition to the excision, it is sometimes advisable, if the pyloric muscle is more spastic than normal, to follow the excision by the Rammstedt operation of splitting the serosa and pyloric muscle.

In connection with the morbidity, mortality, and end results of gastric ulcer and duodenal ulcer, it is interesting to consider the statistics compiled by Mr. Hunter, Actuary of the New York Life Insurance Company. Mr. Hunter analyzed 2323 cases in which operation had been performed for gastric ulcer and duodenal ulcer. The results proved that the death rate in duodenal ulcer in five years after operation was no higher than the average death rate for the same age and condition in insurance risks, as shown by the life insurance mortality tables; while the death rate in the gastric ulcer group was three times that of the normal risks.

On exposure of a gastric ulcer we very commonly find a marked edema about the ulcer, with adhesions and fixation of the ulcer, which findings are more marked than in malignancy. Ulcer does not show the small discreet carcinomatous foci just under the serosa that is shown in carcinoma. The adjacent glands are often enlarged and firm in both carcinoma and ulcer, so that the condition of the glands is no criterion without microscopic examination.

For a gastric ulcer upon the lesser curvature, excision alone has proven unsatisfactory because of the crippling of the musculature of the stomach along the greater curvature, at a point corresponding to the site of the ulcer on the lesser curvature. Therefore, it has been found expedient to do a gastroenterostomy in addition to the excision of the ulcer. In many ulcers of the body of the stomach, the cautery excision of Balfour combined with a posterior gastroenterostomy is very successful. Where one encounters a large calloused ulcer of the body, too large for the cautery, a sleeve resection is, in most cases, the most satisfactory form of treatment. The most serious type of gastric ulcer is that of the posterior wall which has perforated and become adherent to the pancreas. In this location it is rather a difficult surgical procedure to entirely remove the ulcer, but wherever possible removal should be practiced; at the same time shaving off a sufficient amount of the pancreas to entirely eliminate the ulcer. If the raw area thus left in the pancreas is peritonealized, no bad results will be evident following such procedure. Contrary to the usual findings, this type of ulcer involving the pancreas may be larger than a 25 cent piece without the frequency of malignancy which is seen in ulcers of similar size in other locations. There are three methods of approach to these posterior ulcers: (1) Through the gastrohepatic omentum, (2) through the mesocolon, or (3) through the anterior wall of the stomach. In the case of a pyloric ulcer it is best to do a partial resection of this portion of the stomach should the condition of the patient warrant. Probably the best types of resection for the pyloric ulcer are the Billroth II or the Polya; the former type permits of an original posterior gastroenterostomy if the condition of the patient does not warrant a complete resection at one stage, with the performance of second stage of the operation about two weeks after the gastroenterostomy. During these two weeks the patient will, as a rule, pick up very rapidly and be transformed from a poor surgical risk at the time of the first operation to a satisfactory risk at the time of the second step. Many of the ulcers on the lesser curvature involve both the anterior and posterior wall forming what is commonly termed the "saddle ulcer". Knife excision plus gastroenterostomy is the most satisfactory form of treatment for this type of ulcer, but in a great many cases excision is impossible and when this is the case, it is best to do a cautery excision plus a gastroenterostomy. With a simple ulcer on the anterior wall, excision of the ulcer is easy, and is combined with gastroenterostomy with very satisfactory results. Occasionally we see an ulcer of the stomach with a marked hour-glass contraction; this situation is most satisfactorily treated by the sleeve resection, which most nearly restores the normal motility of the stomach following operation. For the inoperable ulcers found high on the less curvature, the procedure indicated is a posterior gastroenterostomy which will greatly relieve the patient's symptoms, and it has been found that in many cases where this procedure has been carried out, that the ulcer is so reduced in size that the latter excision is possible.

Gross hemorrhage occurs in approximately 25% of gastric ulcers, in 20% duodenal ulcers and in about 16% of gastric carcinomas. In acute gastric hemorrhage surgery is usually contra indicated, because recovery almost invariably occurs following primary gross hemorrhage in ulcer; and because in those rare cases in which a single hemorrhage is sufficient to cause death, an emergency operation would not have saved the patient. If a second hemorrhage should occur, indicating a tendency towards frequent recurring attacks of bleeding, then operation is definitely indicated. If the hemoglobin is under 40% the patient should be given a transfusion before operation. The best surgical treatment of this type of ulcer is cautery or knife excision if possible; if impossible, then gastro-enterostomy together with ligature of the afferent vessels about the ulcer.

The progressive symptoms and signs of acute perforation of ulcer are so familiar, that delay, which is so disastrous in these cases, is rarely excusable. A large percentage of these cases may be saved if given the advantage of surgery within the first twenty-four hours after perforation; the mortality mounts rapidly after the elapse of the first day following perforation. In cases of perforated ulcers the technique in that individual case must be carefully judged by the surgeon who, of course, is guided greatly by the condition of the patient and the location of the ulcer. In all cases, if at all possible there must be a satisfactory closure of the perforation and when feasible an excision or a gastroenterostomy should be added to bring about a complete cure of the original lesion. Jejunostomy alone is frequently a life saving measure in a few extensive perforated gastric ulcers with associated perigastritis, where posterior or anterior gastroenterostomy is inadvisable.

The postoperative care of all cases of ulcer in which surgery has been carried out is of great importance. I believe that rest of the stomach and upper intestinal tract is a primary requisite where there has been a gastroenterostomy, excision, or resection, and the more complicated the surgical procedure the longer should be the period of gastric rest following the operation. In extensive resections the patients may safely go as high as four days without anything by mouth, the fluid balance being maintained by protocylsis, subcutaneous, or intravenous installations of fluids. A very satisfactory method of giving these patients stimulation is a protoclysis of coffee. The stomach tube is an important instrument in our hands to overcome any retention or dilatation of the stomach, and when carefully used is a harmless, as well as a life saving measure. The quick pulse and anxious expression in many of these cases immediately after operation is often due to nothing more than gastric retention and is promptly relieved by careful gastric lavage which should be repeated as often as indicated. The early detection of the toxemia associated with high gastrointestinal obstruction is important and is best controlled by the installation of intravenous physiologic salt solution and glucose.

Following gastroenterostomy or other operations upon the stomach there is an ulceration of the mucosa for a period of about two weeks, hence it appears to me to be rational and logical to withhold fluids by mouth for the first forty-eight hours at least, and for some months thereafter to use a diet that is non-irritating to this mucosa, by which I mean the avoidance of highly seasoned foods, coarse or fried foods, condiments, tobacco, alcohol, tea and coffee, and to avoid overeating. It is my custom to advise these patients to eat five small meals daily, rather than the customary three meals of the usual size. In addition to the diet, a successful adjunct is the giving of calcined magnesia and bismuth subcarbonate, of each grains 10, thirty minutes after each meal with a glass of water or milk; sodium or calcium bicarbonate may be substituted for or alternated with the afore mentioned medication.

SUMMARY:

1. Most peptic ulcers are caused by bacterial infection, usually of the streptococcic type.
2. It is important to make an early differential diagnosis between gastric and duodenal ulcer, because of the difference in the subsequent management of the two lesions.
3. Medical management of early uncomplicated duodenal ulcers is probably wise.
4. The diagnosis of gastric ulcer makes surgical treatment imperative.
5. Proper preoperative and postoperative care of surgical ulcer cases is of the utmost importance.

(1) Eusterman and Rivers, Annals of Clinical Medicine, Vol. 14, No. 5.

(2) Judd and Rankin: A Technique for the Resection of Gastric and Duodenal Ulcer. Surgery, Gynecology and Obstetrics, Aug., 1923, pages 216-220.

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THE VEINS OF THE LOWER EXTREMITY AND THEIR CLINICAL SIGNIFICANCE

(APPLIED ANATOMY)

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The lower extremity is drained by a deep and a superficial set of veins. The deep veins of the leg run in pairs accompanying the anterior and posterior tibial arteries. In the popliteal space a single pipliteal vein is formed and continues up the thigh as the femoral vein accompanying the femoral artery. These veins are beneath the deep fascia and supported by the surrounding muscles. The deep veins of the leg and thigh are provided with bicuspid valves.

The superficial veins consist of a small saphenous and a great saphenous system. These systems have their origin in a dorsal venous arch just beneath the skin over the head of the metatarsal bones. The medial end of this arch is the beginning of the great saphenous vein. The lateral end is the beginning of the small saphenous vein.

The great saphenous vein passes anterior to the medial malleolus continues up the medial side of the leg and then passes posterior to the medial condyle of femur. It continues up the medial anterior surface of thigh reaching the fossa ovalis, pierces the fascia cribrosa and femoral sheath to join the femoral vein just below Poupart's ligament. (Fig. 1).

The saphenous communicates freely with the deep veins by the perforating veins. It contains from five to twenty bicuspid valves. The valves support the column of blood at various intervals and permit the blood to pass only in an upward direction (Fig. 3).

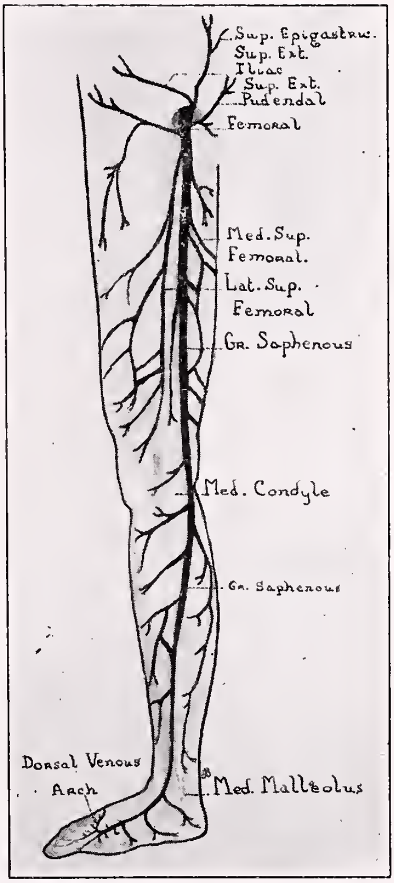

Fig. 1. Greater saphenous vein passing up the inner side of lower extremity. Before entering the fossa ovalis it receives five tributaries, a lateral superficial femoral vein and a medial superficial femoral vein from the lower thigh; the superficial circumflex iliac, superficial epigastric and superficial external pudendal vein from above. Sup., superficial.

The lesser saphenous vein passes posterior to the lateral malleolus, ascends the leg on its posterior lateral aspect to the distal part of the popliteal fossa where it pierces the deep fascia and terminates in the popliteal vein. It communicates with the deep veins of the leg by perforating veins and its valves are distributed similar to those of the great saphenous system. The greater and lesser systems communicate. (Fig. 2).

The arteral pressure transmitted through the capillary bed, the slight suction action of the heart beat and respiration and the pumping action of relaxing and contracting muscles are the forces responsible for venous circulation of the lower extremities. The muscle pumping action plays a most important part in the deep veins but very little in the superficial veins. Here compact fat with the tonicity of normal fascia and skin are an aid when deep muscular movements are taking place. The main function of the valves is to prevent the blood from being forced downward during muscular contraction and from external pressure as constricting bands, and direct the blood toward the heart and not out into the branches.

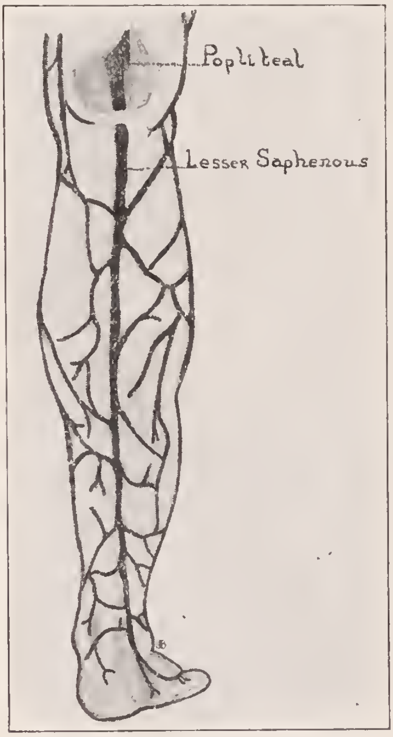

Fig. 2. Lesser saphenous system enters popliteal vein in popliteal space.

There is usually one or two pairs of valves in the external iliac vein just above the saphenous opening and another pair of valves guarding the saphenous opening. These valves help support the column during periods of increased abdominal tension as in straining.

There are bicuspid valves in the perforating veins of the leg and thigh and direct the flow of blood from the surface to the deep veins where it is more efficiently propelled to the heart. (Fig. 3).

Varicosities are practically always confined to the superficial veins as the valve-muscular mechanism of the deep veins is very efficient. The varicosities usually begin above and come down although those in the thigh are not so noticeable because they are not so close to the surface. Usually the greater system is envolved, in fact, envolvement of lesser system should excite suspicion of deep vein blocking.

Varicose veins result when the valves of the superficial veins or the perforating veins become incompetent. The incompetent valves can be differentiated by the Trendelenburg test. The patient is placed on a chair which is tilted backward while the patient's extended extremity is held upward and the blood drained from the veins. A tourniquet is applied over the upper thigh and patient then assumes the standing position. With the applied tourniquet the veins cannot fill from above and can only fill slowly through the normal venous branches from below and through the perforating veins if they have defective valves. If the varicosities fill up in less than 20 seconds, the perforating veins may be assumed to be allowing blood to flow back from the deep to the superficial system. The tourniquet is then released and the patient again placed in the tilted chair and after drainage of the leg, the tourniquet reapplied. The patient then assumes the standing position and the tourni-

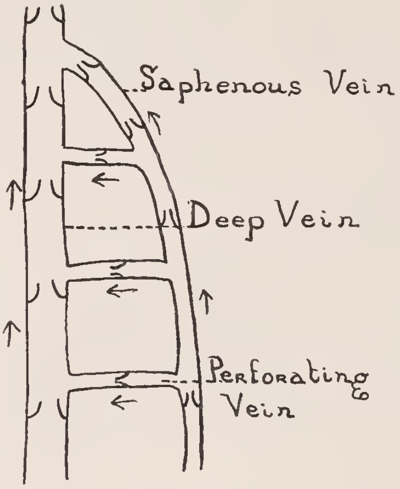

Fig. 3. Valve mechanism of veins. The bicuspid valves of greater and lesser saphenous system are directed to prevent downward flow of blood. The valves of the perforating veins only permit the blood to flow from the superficial to the deep veins.

quet suddenly released. If the varicosities fill suddenly with an influx of blood from above downward it has been demonstrated that the valves in the great saphenous vein are incompetent and permit blood to flow downward. This is important since if the perforating veins are incompetent, care must be taken in their ligation. Many cases of leg ulcer fail to heal because a perforating vein is at the base of the ulcer. When this vein is ligated the ulcer heals.

The application of an elastic bandage for varicose veins gives the effect of an arterial thrust on the venous circulation and tends to better circulate the venous blood. Sponges firmly applied over an ulcer gives a similar effect and so improves the circulation as to heal the ulcer.

The rather modern treatment of varicose vein by multiple injections of irritating solutions cause either agglutination of the vein walls or the origination of a chemically produced thrombus. Here again good results must only be expected when the faulty valves have been determined and the reverse circulation in those veins prevented.

The greater saphenous vein just anterior to the middle malleolus is also a point of selection for transfusion and intra-venuous treatment particularly in infants and children.

THE CARE OF THE AGED IN GENERAL PRACTICE*

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The prolongation of the span of life by preventing the untimely death of children and the youth has brought correspondingly an increase in the number of the aged subjects and these the physician is called upon from time to time to care for.

In meeting the diseased conditions of the younger individuals, whatever they may be, nature is an aid because it helps the young to live but in treating the aged nature is helping them to die.

There are hundreds of books, journals and societies devoted to the welfare of the child and their number is increasing year by year but there is not a journal in all the world so far as we know devoted to the welfare of the aged, and the number of books of any kind treating of their condition are very few and yet in the disability and death of these aged subjects many times their loss occurs when their intellect is at its highest and their value to the community greatest.

There are instances of a few men and women of extreme old age who carry on their life work with great success but a study of history will show that the percentage is no greater than it was a hundred or more years ago.

The undeveloped organism of the child is generally taken into consideration in caring for him and much light is given the physician on the immature structure of children but the decaying state of the old subject is usually left to be guessed at.

Notwithstanding the many changes in the anatomy and the physiology of the aged but little has so far been done to define the manner in which these changes may effect the symptoms or call for different modes of treatment in the various diseases with which they may be afflicted. In the progress of senility the changes are in many cases quite slow and by no means do they make their appearance at any particular age. The anatomic changes called senile degeneration occur in every tissue and every organ of the body and this essential change is waste of tissue which is either not repaired at all or is replaced by a tissue of a different character.

In every case where the waste is repaired by other tissue the new is of a lower order requiring less blood supply and incapable of doing the work of the wasted tissue. In some cases the muscular tissue is replaced by fat and in others by fibrous tissue but in some no replacement is made. Active muscles usually waste while the inactive undergo fatty degeneration. Synovial sacs become dry and thick and these changes in structure cause stiffness and pain on motion.

Changes in the hollow organs and tubes consist of atrophy of the muscular fibers with a consequent dilitation of the organ or tube and where glands are embedded in the walls as in the stomach and the intestines they atrophy.

Most glands atrophy and their secretions are diminished.

As a result of the anatomic changes the functions of the organs and the tissues are altered and the extent of this change in function is dependent upon how great the anatomic change has been.

The amount of blood carried to all parts of the organism is lessened because of these anatomic changes and especially in those parts supplied by terminal vessels is the supply lessened and these terminal vessels are insufficiently nourished.

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*Read before annual meeting Nebraska State Medical Association, Hastings, May 15-17, 1928.

The circulation is maintained with difficulty because the vessels have lost their elasticity. Owing to the atrophy of the muscular fibers of the veins and the consequent dilatation of the veins and their loss of tonicity the return circulation is impaired and the general circulation weakened. Nerve control is affected and as a result of nerve and circulatory changes organs and tissues are insufficiently nourished and as they degenerate their functions are weakened and in some cases altered.

While any part of the organism may show signs of degeneration the kidney, the nervous system, the circulatory and the digestive system are the ones which most often show these senile indications. They all fail, however, for lack of nourishment and that would appear to put real fault up to the digestive system. The process of degeneration is much complicated in many ways because of the interdependence of the various organs involved. Failure of sufficient nourishment causes some of the peptic glands to atrophy and this does more damage to the already crippled digestive system. Owing to these deviations from that of the normal mature adult digestive system the blood stream is not properly supplied with the materials necessary to meet the requirements of the failing organisms and further waste ensues. In other words these breakdowns begin and continue as a result of the digestive system being no longer able to produce the required materials to furnish the blood with the quantity and the quality of nourishment needed to keep the body at the normal mature adult standard. The kind and quantity of food used in his mature adult years can no longer, by the failing digestive system of the senile subject, be made to meet the demands incident to old age. At this time in life whether he be thirty or eighty when the evidences of degeneration begin to present themselves he should consume only such food as his digestive system can easily appropriate.

We do not hold to the idea that the digestive system is the primary offender in the process of senile degeneration but we do believe that a proper regard for the possibility of maintaining the means as long as it can be whereby all parts of the body may receive their needed nourishment is the way to keep these aged subjects on their feet.

Inquiry into the habits of a number of aged subjects who are active and vigorous has disclosed the fact that they have not for many years indulged in the diet which they used in earlier life.

Through the lapse of time the processes of nature begin to weaken and if the condition called senility is held in check at all it is by giving proper regard to the lessened powers of recuperation when they begin to fail and not waiting until it is too late.

There are many of these senile changes which give the aged subject much discomfort which are what might be called natural conditions and not a disease.

To give a single instance:

There often will be complaints from some of these old people about pain in their ankles, knees or other joints which they will call rheumatism but which as a matter of fact is due to a drying up of the synovial fluid in these joints and a thickening of the synovial membranes and not to any focal infection.

Giving salicylates might relieve the pain some but to take out tonsils or to remove any remaining teeth would not help.

Changed nutrition is the cause of hardening of the arteries in a majority of these senile subjects and where such is the case it is not a disease but a natural state and although treatment will hold it in check for a time it will not do so long.

Arteriosclerosis is usually discussed along with blood pressure and in the matter of blood pressure we are somewhat at a loss for we have seen a number of elderly subjects with a blood pressure of over 200 systolic who were active and well and again we have had cerebral hemorrhages in those who so far as we know never had a systolic pressure of over 160.

Intestinal toxemia is a condition frequently met with in the senile subject that it *not* a natural state and is a means of producing many misleading symptoms.

The muscular fibres of the rectum and the lower part of the colon atrophy permitting a dilitation of the lower bowel.

This allows a large amount of fecal matter to accumulate in the rectum and owing to the atony caused by the waste of muscular fibre a larger amount accumulates than the normal bowel can hold.

The bowel is then still farther dilated and the weakened muscular fibre still further stretched and further waste and atony ensues with greater distention.

Prolonged retention of feces with the consequent decomposition and absorption of toxines produces intestinal toxemia with its train of symptoms and complications. This changed condition of affairs in the aged can cause a line of misleading symptoms that at times are confusing. Mental depression and a general stupidity are often times due entirely to the fact that the colon and the rectum contain an enormous accumulation of fecal matter which is furnishing toxic material which is having the effect of producing symptoms which might lead one to suspect that a serious brain degeneration was taking place.

Mr. M. G. A gentleman of 68 who had until the last year been very fastidious in his habits and dress but at the death of his wife one year ago he began by degrees to be depressed, careless, morose, listless and stupid and this was followed by being slovenly and filthy.

Notwithstanding the statement by his family that he had been having at least one free bowel action each day it was thought best to give him a laxative mineral water for a few days and the results were wonderful in more ways than one.

By keeping up this laxative treatment for a number of weeks this man's mind cleared up and he has shown no evidence of a return.

In the winter months when these old people remain much indoors and take but little exercise they oftentimes develop what might be called a bronchial asthma or winter bronchitis and think that it is due to breathing the cold air but such is not always the cause.

Mr. B., a well to do German, 73 years old at this time, would spend his time during the warmer part of the year working in his garden and did a great deal of hard labor but in the late fall he would quit active exercise and spend his time sitting in his house reading. Usually about the middle of December he would begin to develop what would appear to be bronchial asthma and in spite of the ordinary treatment would continue until the weather became warm enough for him to begin his work again when it would disappear. For three winters we tried to do something with this trouble but with no satisfactory results. Not wanting this man to go to southern California to spend his winters (he being wealthy), as a last resort we concluded to act on the idea that his condition was caused by intestinal toxemia and to our great relief it did the trick and he has gone through the last winter without his asthma.

Our limited experience has not been in accord with the idea of some physicians who hold to the notion that it is not necessary for these old subjects to have daily bowel actions.

Diabetes can produce misleading symptoms of a great variety in old subjects and many times they appear to have no connection with this disease. As diabetes can exist with the aged for years without any apparent increase in the amount of urine it is easy to overlook the fact that the muscular pains and the melancholia are at times caused by this condition.

True senile pneumonia seldom if ever presents the symptoms which this disease gives us in the mature adult. In these aged subjects there is seldom much if any fever in this disease and the pulse at the wrist may be little changed from what it is in their ordinary health.

Often there is but little cough and no expectoration. The prostration in senile pneumonia is extreme and in most cases deep coma is present. Diabetic and uremic coma may be many times suspected where the real trouble is pneumonia. It is doubtful if many cases of senile pneumonia recover. Many aged subjects especially in winter have a sort of chronic bronchitis. This may be due to the degeneration of the bronchial mucus membrane which is easily irritated by the cold air but this is by no means always the cause. As mentioned before intestinal toxemia can be a cause and also the habit of sitting indoors and smoking tobacco many hours at a time.

Influenza is the disease which is a means of producing much trouble in any age but in the aged subject with their weakened powers of elimination and lowered resistance it is perhaps the most to be dreaded of all contagious disorders. The variety of derangements which this germ can produce and the persistance with which it can hold on in these old subjects is the explanation to many of their vague and chronic complaints. There is no organ or tissue in the body which is not at times attacked by this influenza germ and many of these aged subjects undoubtedly carry them in their systems for months and even years possibly and in that way producing a number of symptoms and different complaints almost too numerous to mention.

The first indications of influenza in all subjects and surely in the old should be dealt with vigorously. Most all aged patients are seen in their homes, and many are miles in the country and the use of laboratory methods in such cases is not often convenient. Reference to the heart and kidney has been omitted because these will be taken up later in this program by doctors who are much better prepared than we to describe the condition of these organs. At all hazards keep the mind and the body of all aged subjects occupied.

Do not put them to bed if it can by any means be avoided and do not let any one talk to them about dying for they think about that a plenty. Many of the problems in caring for the aged must of necessity be omitted for the want of time.

DISCUSSION

G. M. WHITE, M. D., (Ingleside, Nebraska): Dr. Downing's paper is of particular interest to me because we see these things he described so often in the patients who come to us. Our system of treatment is very much along the same line that he has suggested in his talk. His description of arteriosclerosis is commonplace with us. We find it as often as not with a low blood pressure. We find apoplexy with low blood pressure. We have all the symptoms of a pseudoparesis.

Our experience with auto-intoxication of intestinal origin is very much along the line of his paper. Pneumonia and diabetes and all the details he specifies we see a great deal of.

I enjoyed his paper very much.

JAMES M. PATTON, M. D., (Omaha, Nebraska): Mr. Chairman: Dr. Downing has given us a very excellent presentation of this problem which we are up against more or less. In our practice, particularly when dealing with elderly people, the question of intestinal management is ever before us. It is difficult, when we put these elderly patients to bed, to secure sufficient elimination. So a number of years ago Doctor Gifford thought of the plan of giving them vaseline. I do not know why you smile when I say that, because we used to grease our boots with vaseline so as to get them on in the morning.

After having difficulty with liquid form of intestinal lubrication, we found if the patient were given a dram or two of yellow vaseline once or twice a day, it solved the problem. The reason why vaseline is superior to the other liquid forms is the same reason that heavy transmission grease is better for the working part of your automobile than oil. The liquid pabulum is mixed with it in the intestinal tract or absorbed by the intestinal mucosa. The vaseline acts as a mechanical lubricant and thoroughly lubricates the wall of the intestinal tract and gets away from this intestinal stasis which Dr. Downing has so well emphasized.

Not only in cases confined to bed, but your patients with other evidences of absorption traced to the intestinal tract—your obscure neuroses, etc.—will be benefited by this.

You say it is nasty to take. It is not. Personally, I have eaten pounds and pounds of it. My family takes it. We do not preach what we cannot practice.

Insist on getting the yellow vaseline in the original package, so there is not a lot of flies or roaches in it. You will have no difficulty in getting your patient to take it, either from the spoon or on a sandwich.

B. F. BAILEY, M. D., (Lincoln, Nebr.): I am sure we are glad to know what makes Dr. Patton such a smooth proposition.

I have been glad to listen to the paper on the Care of the Aged because it is a good paper and comes from a general practitioner.

There are just a few things we ought to consider in regard to those growing older. Man is simply a human machine—and when I say "man", I include both sexes. There are two extremes of life—the young and the aged. There are two extremes in the automobile. Suppose you took your automobile when new and started to run it fifty miles an hour, how far would it go? Suppose you did not give it proper lubrication, how far would it go? You would stop when you had gone about eight thousand miles.

It is the same with the human machine. As a matter of fact, from early time we must furnish the material for nutrition that is necessary. Later, as intelligence comes and the intellect works and we are affected more and more by it, there are two things very necessary. I have found it so. I am sure you all do. If we will think of it and consider it, not nearly so many old people will have to go to institutions.

The consciousness they are growing old is depressing. Any depressive state is the most difficult thing to overcome in carrying on a case of nutrition of anything I know of. Did you ever have the "blues" or get depressed? You know its effect. Then again, they go on eating as they always have—just so much protein and so much of laxative foods. They are careless of the fact they cannot digest these foods properly, with the result the imperfectly lubricated foods make toxins, and they make toxemia. We talk of toxins. We do not know just what they are, but we know what they do to the system.

So I say if we will conserve the mental attitude of the people so that they will not be so conscious of growing old and think they must become helpless, and give to them the caution about the foods and the functions of life—insist upon it—and remember when these things are done the defenses are at the best and the germs do not become active, then we shall have more people growing older and able to use their intellects at their best, as did Chauncey Depew and Gladstone and many others who have grown old and have been useful and given to the world of their experience.

F. W. HEAGEY, M. D., (Omaha, Nebr.): I know of no one subject more timely than the one brought to our attention. You men who are familiar with insurance statistics know that more people are alive at ninety years today than ever before. It seems to me after we have listened to the spirit of optimism that Dr. Bailey brought out, and the lubrication by vaseline brought out by Dr. Patton, there is one other thing we should bring out, and that is the prevention of ailments of old people. To my mind, the things we expect old people to have—arthritis and the various disturbances that make them dependent—are entirely preventable, except for a few instances.

When a man reaches sixty, so many are brought by sons and daughters face to face with the idea, "We will make them comfortable". Do you realize many have thirty more years to go, and we think thirty years, particularly in middle life, is a long time. Such a thing as a fractured hip, we have been so prone to put to bed and expect them to eke out an existence until they pass out. Nowadays they are put back on their feet.

Such things as complaints of the aged person between sixty and seventy face us. We are prone to ascribe to age more than it demands our attention. It brings us back to the time-worn subject of focal infection. We will throw up our hands with horror at a mouthful of bad teeth. When we advise removal of tonsils, there are people who say, "He is too old to have his tonsils out". I know of no age that stands tonsillectomies better than the patient between sixty and seventy.

Let us not overlook the fact that because the patient is approaching old age he may not be as comfortable as the rest of us, if we give him the same attention as the rest of us.

DR. DOWNING, (closing): I might explain the reason for presenting this paper to the society was the fact I have observed so many helpless aged people. I could not find anything anywhere that would give me very much assistance in relieving these old people of their troubles. I hoped I would get the ball started and I would hear something from the others that would be of service to me. I think I have.

I thank the audience for its kind attention, and these doctors for their favorable comments on what little I had to present to you.

A BRIGHT IDEA

Young Father: "That luminous paint is a splendid invention."

Bachelor Friend: "What do you use it for?"

Young Father: "We paint the baby's face so that we can give him his bottle in the night without lighting the gas."

NEBRASKA UNIVERSITY HOSPITAL

CLINICO-PATHOLOGICAL CONFERENCE

A. D. DUNN, M. D., INTERNIST, and A. J. MILLER, M. D., PATHOLOGIST
Edited by L. L. Davidson, M. D.

CASE NO. 21521. May 13, 1927.

A young male negro, 23 years of age, was carried to the ward on a stretcher, December 4, 1926, complaining of:

Weakness and loss of weight.

Occasional pains and "misery" in abdomen.

Distention of the abdomen and "smothering sensation".

Afternoon fever and chills.

He was admitted to the medical service of Drs. Bridges and Pratt.

ONSET AND DEVELOPMENT: Three months previous to admission the patient, while at work, had drunk a considerable quantity of ice water, following which he had suffered some abdominal cramps which lasted for a few hours but did not prevent him from continuing work.

Six weeks previous to admission he was compelled to quit work because of fever, chills, and weakness. He was at home a week before a doctor was called who advised rest in bed. This was carried out except for a few days when he attempted to sit up, but when the symptoms became worse, he went back to bed. During that time, he had a good appetite, was not constipated and did not have a diarrhoea. There had been some loss of weight during the three months previous to admission, amount unknown, and a gradual increasing weakness, with a regular afternoon rise in temperature for the last six weeks.

PREVIOUS ILLNESS: There had been measles, mumps, stomach worms (round and about six inches in length), and chicken pox in childhood. There were no illnesses between childhood and the present onset.

FAMILY HISTORY: There was no history of familial tuberculosis, carcinoma nor mental disease.

PHYSICAL EXAMINATION: On admission (10 a. m.) T. 98.8. P. 100. R. 24. At four in the afternoon, time of physical examination, the readings were T. 104.6, P. 132, R. 26.

A young male negro lay quietly in bed with the covers pulled up around his chin as though he were cold. He was rather tall, thin featured, and demonstrated a mild degree of emaciation but no acute distress.

Head: Head was well formed. There were two scars of knife wounds beneath the mandible on each side. The pupils were regular, reacted to light and accommodation, the left being larger than the right. There was no nasal obstruction nor deformity. The teeth were in excellent condition, the tonsils not enlarged, there being no injection of the pillars nor of the pharyngeal wall. The gag reflex was active. There was a slight tremor of the tongue.

Neck: The lymph glands in the posterior triangles were palpable, about ¼ inch in diameter, freely movable and not tender. The thyroid was not palpable. There was no rigidity nor muscle spasm.

Lungs: Expansion was equal on both sides, the ribs were prominent, and tactile fremitus was symmetrical. The chest was resonant throughout except for the liver dullness which extended to the 5th interspace mid-clavicular line right side. A few fine rales were heard over both bases posteriorly.

Cardiac: Apex beat was in the 5th interspace midclavicular line. The area of cardiac dullness was not enlarged either to the right or to the left. The heart sounds were apparently normal. No murmurs nor extraneous sounds were heard.

Abdomen: The abdomen was distended, the anterior wall rounded and arched. The skin was dry and hot. Slight tenderness on deep pressure over the entire abdomen was elicited, together with a doughy consistency of the abdominal wall. Palpation was difficult because of distention and no organs were felt. Percussion was tympanitic throughout except for dullness in the flanks which did not change with position. The patient placed on the hands and knees demonstrated no dullness in the dependent portion of the abdomen.

Extremities: There was a slight tremor of the fingers on extension, the skin over the arms and legs was dry, loose, and rough. The lymph glands in the axillae and groins were about ¼ inch in diameter but not tender.

Reflexes: Knee jerks, ankle clonus and triceps reflexes were normal.

LABORATORY: On admission the white blood cells numbered 5,000 of which 68% were neutrophiles and 32% were lymphocytes. The number on eight examinations during the 68 days of hospitalization varied from 3,700 to 6,000. The red blood count dropped from 4,270,000 on admission to 3,460,000 on Jan. 28. Blood smears were negative for malarial parasite. The Widal was negative; the blood Wassermann was negative. Blood pressure varied from 104/78 to 94/74.

Repeated sputum examinations were negative for the tubercle bacillus.

Urinalyses were frequently done and found to be negative. Centrifuged specimens were examined for the tubercle bacillus but none were found.

The stool specimens were pasty, grayish color, but contained no blood, parasites nor acid fast bacilli. The cultures demonstrated B. Coli, but no typhoid nor para-thyroid.

Von Pirquet reaction was slightly positive. The tubercumet was negative.

PROGRESS: During the course of his hospitalization (68 days) the temperature curve was of the remittent type with an afternoon rise to 103 or 104. The pulse was about 100 on admission but the curve gradually rose to about 125 with more irregularity the past few weeks. The respiratory curve gradually rose from 20 to 30.

Dec. 12. Fundi were examined by Dr. S. Gifford. "Fundi normal. No tubercles seen".

Dec. 21. Patient complained of a severe pain in the left chest laterally, almost compelling him to cry out. This involved the right side before the end of the day. There was no increase in the respiratory rate, nor change in the T. P. R. nor physical findings to account for the distress.

Jan. 2. Transferred to Surgery. The following day a laparotomy by Dr. J. A. Weinberg was done. Adhesions were very dense and it was difficult to enter the peritoneal cavity. Very large tubercles studded the peritoneal surfaces. The wound was closed and the patient returned to the medical floor for observation.

About four or five days after the operation the patient began to cough and complain of pain in the right chest anteriorly and along the costal margin. Over this area a definite pleural rub was heard together with a few coarse rales. A pleuropericardial friction rub was heard along the left border of the heart. The apex beat was in the 4th interspace, midaxillary line, and the apex thrust was forceful. The heart sounds appeared normal. Emaciation and weakness were gradually increasing.

Jan. 13. Roentgenogram of the chest. "The right lung is very dense, the outline of the diaphragm on the right is not seen and the lung markings of the lower and middle lobe are invisible. They are faintly seen in the upper lobe. On the left side the diaphragm is clearly outlined, and there is no fluid in the base. The apex is clear, and some areas of calcification are visible. Heart normal in size and pushed somewhat to the left. Great vessel area not enlarged. Diagnosis: Probably unresolved pneumonia of the right lung with some fluid in the pleural cavity."

X-ray on entrance: "There is no fluid at the bases. There are some adhesions at the right base. There is some thickening of the hilus on the right side with a few areas of calcification. The lung markings extend well to the periphery. The left lung shows areas of increased density in both the upper and lower lobes. Diagnosis: Old tuberculosis, not active."

Jan. 19. A very faint friction rub was heard over the upper lobe with loud breathing over this same area. The bowels moved two or three times daily without catharsis. Respirations were more shallow and rapid, with some dyspnoea. Flat percussion note over the right lung both anteriorly and posteriorly up to about the 4th rib was heard. Voice and breath sounds were transmitted with increased intensity over the area of flatness.

Jan. 24. The right chest was aspirated, 20 cc. of red bloody fluid being obtained. It contained many red blood cells and a few white blood cells, 13 lymphocytes to 2 polymorphonuclears. A guinea pig inoculation was negative for tuberculosis. No acid fast organisms were found in the smear.

Jan. 30. The pleural rub over the left chest was not present but could still be heard over the right border. Tactile fremitus was absent over the lower right chest.

The patient continued to decline with increasing difficulty in respiration, faster pulse and emaciation. About Feb. 7, patient complained of a severe knife-like pain in the upper portion of the operative scar. At this point a mass about the size of an orange was found, soft, semifluctuant and very tender to palpation. An incision was made and fecal material drained out with considerable escape of gas and immediate relief of symptoms. Liquid feces continued to escape for 48 hours without much change in his general condition. A severe hemorrhage occurred from the abdominal opening. The pulse became thready, weak and rapid. The skin was cold and clamy, with profuse perspiration. Drowsiness increased to stupor and the patient died a cardiac death.

ABSTRACT OF DR. DUNN'S COMMENT

A young male negro gave a history of an illness of about three months' duration. The onset was with abdominal cramps after drinking a considerable amount of ice water six weeks prior to admission. He was compelled to quit work because of fever, chills and weakness. The history with the clinical course after the patient entered the hospital showed a relentlessly developing chronic infection. His complaint of occasional abdominal pains, distention and "misery" directs our attention to the abdomen as probably the most important seat of the infectious process. The belly was distended, skin dry and hot and was diffusely tender. The record tells us there was a "doughy consistency of the abdominal wall". This might have been better stated "there was a doughy consistency of the abdomen to palpation". A doughy sensation received on palpating an abdomen developed by experience becomes a most valuable clinical sign of a chronic peritonitis of tuberculous, carcinomatous or of any other origin. The sensation comes from putting the fingers, so to speak, into a diffuse mass of low grade exudative material, roughly held together, usually with fluid in the interces caused by an inflammatory process that has not been acute enough to give rise to a sensory motor stiffening of the abdominal wall. In acute inflammatory processes the abdominal wall is rigid. There is a marked muscle defense. One occasionally has the opportunity of observing the changing sensations obtained by palpation as an acute tuberculous peritoneal "seeding" develops into a chronic tuberculous peritonitis. Occasionally, in the onset of tuberculous peritonitis, acute localized findings in the peritoneal region may precede the development of the chronic disease and give rise to confusion. In our case in addition to the doughy consistency of the abdominal wall we have tympanitis and dullness in the flanks, which does not change or shift with position. In chronic tuberculous peritonitis fluid is commonly pocketed and the valuable sign of shifting fluid is not obtained.

It is interesting to note at this point that there had been no suggestive manifestations pointing to the lung as the seat of infection. To be sure on physical examination a fine moist rales were heard at both bases, but in asthenic individuals lying in bed there is likely to be a slight excess of moisture in the dependent lung areas sufficient to give rise to fine moist rales.

Lymph glands were palpated in the posterior triangles of the neck, in the axillae and groins. They were freely movable and not tender. Tuberculous lymph glands are not likely to be discrete for long.

The laboratory has given us only negative information. In any febrile case the absence of a leukocytosis is significant. Counts on this patient averaged from 3000 to 6000 with a normal count of polymorphonuclear leukocytes. Several of our common infections run with a normal or subnormal leukocyte count, vis: Malaria, typhoid, tuberculosis, frequently influenza, measles and mumps. One must not commit the error, however, of ruling out a pus infection by the absence of a leukocytosis. I recently saw an appendiceal abscess with an acute intestinal obstruction in which the leukocyte count was only 7000.

Our patient had a negative von Pirquet test. A negative von Pirquet does not mean that the patient does not suffer from tuberculosis. Tuberculin tests are likely to be negative in tuberculous peritonitis, tuberculous pneumonia, etc. I watched one case of a slowly developing pulmonary tuberculosis in a robust individual in whom over a period of several years and up to the time of death, the von Pirquet was persistently negative.

It is interesting to contrast the x-ray plates taken at the time of admission, which showed nothing further than an occasional juvenile tubercle, an ordinary amount of thickening at the hiluses and a slight clouding in both apices. Contrast these early plates with the one taken ten days after operation. Something had happened. There is a markedly increased density on the right side. A friction rub has appeared. A flat percussion note over the right lung anteriorly and posteriorly up to the level of the 4th and 5th vertebrae was present. Voice and breath sounds were increased over the area of flatness. One would like to know about the fremitus. It is important in the differentiation between fluid and consolidation. The voice and breath sounds are often transmitted through fluid but the fremitis is absent. The findings, as given, are for consolidation rather than fluid. Supposing you had tapped that chest and had found fluid. In a pneumonia if you tap the pleura and get the point of the needle into an area 2 or 3 mm. in depth you may get some bloody fluid. For that reason a fremitus is almost crucial. With fremitus present one would not hesitate in ruling out any large amount of fluid. Furthermore, fluid in one chest with a tuberculous peritonitis seems hardly sufficient to put a man out so rapidly.

The absence of fremitus over the right chest, on 1-30-27, is a strong argument against the presence of a large amount of fluid.

About one month after entrance an exploratory laparatomy was performed and findings given of a diffuse fibroplastic exudate of the peritoneum studded with tubercles. Death was due to postoperative hemorrhage.

To summarize:

(1) Infection, evidenced by fever, emaciation, etc. The character of the infection is tuberculous, based on the finding of tubercles at operation, febrile curve, evidence of peritonitis, etc. The infection is a disseminated one but is not a true miliary tuberculosis.

(2) Bilateral pleurisy, tuberculous with moderate effusion on the right side.

(3) Old tuberculosis of both lungs, probably fresh, rather extensive tuberculosis of the right lung.

(4) Chronic fibroplastic tuberculous peritonitis.

(5) Possible tuberculous enteritis. There is little question about the presence of tuberculous peritonitis although the diagnosis of tuberculous enteritis is uncertain. As far as the heart spleen, kidneys, etc., are concerned, there is no evidence of any unusual disturbance.

DR. MILLER'S DISCUSSION

The body was that of an emaciated negro with about 50% of rigor mortis. In the right lower abdominal quadrant there was a longitudinal incision 10 cm. in length, the upper half of which was healed. The skin gapped in the lower half and allowed necrotic tissue to protrude. There was no discharge of fecal material.

The abdomen was opened with great difficulty because of dense adhesions binding the viscera to the parietes and matting them together. There was no fluid. The peritoneal surfaces everywhere were studded with small, grayish, translucent tubercles measuring 1-4 mm. in diameter. The lower part of the surgical incision was a fistula connecting with the ileum one-half meter from the ileocecal valve. Careful search for bleeding points in the wound was not successful. Since the fistula was so near the hypogastric vessels it is believed that the hemorrhage came from branches of those vessels.

The left pleural cavity contained 500 cc of clear straw colored fluid. The right cavity contained 1000 cc of blood-tinged fluid. On this side there were old adhesions binding the lung to the diaphragm and the pleura was studded with tubercles similar to those in the peritoneum. The pericardial cavity contained 150 cc of clear straw colored fluid. The sac contained no tubercles. The mediastinal glands were enlarged and some of them were caseous.

The heart weighed 200 grams. There were no lesions in the valves, coronary vessels, or musculature save for an advanced cloudy swelling.

The aorta was normal.

The left lung weighed 360 grams and the right 340. The lungs were crepitant throughout but there was some congestion posteriorly on each side. Throughout each lung there were old calcified nodules measuring 1-3 mm. in diameter. These lesions were typical of old calcified tubercles. In the region of the adhesion at the base on the right side there were recently formed and active tubercles in the periphery of the lung tissue.

The liver was of normal size. Its serous surface was ragged with adhesions. The sectioned surface revealed a few small light-colored tubercles. These were older than those in the peritoneum. The gall-bladder was not remarkable

The pancreas was free from changes except that it was soft in consistency. The lymphnodes in its immediate vicinity were large and caseous. Nowhere has the tuberculous process invaded the pancreatic tissue.

The spleen was firmly adherent to surrounding structures. The sectioned surface revealed many caseous tubercles from 1-4 mm. in diameter. On section these lesions were found to be active.

The gastro-intestinal tract was so matted together that its dissection was impossible. The colon and the lower half of the small bowel were opened but no lesions found in the mucosa anywhere. The mesenteric lymphnodes were large and caseous. Sections of the granulation tissue in the wall of the fistula showed it to contain numerous active tubercles and in one of these several large thrombosed veins were seen.

The right kidney weighed 160 grams and the left 180. The kidneys were similar. The capsule stripped with slight difficulty but did not tear the parenchyma. The sectioned surfaces showed no gross pathology except for cloudy swelling. The right ureter was dilated throughout. At its point of entrance there was a mass of conglomerate tubercles partially obstructing the lumen. There was no thickening of the wall. The urine in the ureter was clear. The bladder contained about 30 cc of slightly cloudy urine which was normal save for a one plus albumen. The mucosa of the bladder had no lesions. No changes were found in the prostate.

The adrenals contained no tubercles. Tubercle bacilli were not found in direct smears. However, guinea pig, innoculated with macerated tissue, died of tuberculosis in four weeks. In the lesions of the pig great numbers of typical tubercle bacilli were found.

The findings were general tuberculous peritonitis, tuberculous fecal fistula of the ileum, miliary tuberculosis of the spleen and liver, tuberculous lymphadenitis of the mesenteric post-peritoneal and mediastinal lymphnodes, tuberculous pleurisy with effusion, right; hydrothorax left, hydropericardium, old tuberculosis of the lungs, active tuberculosis of right lower lobe, hydroureter right, cloudy swelling of the viscera, and emaciation.

Judging from the age of the lesions it appears that the pumonary lesions were oldest. Many of these were calcified. However, the pulmonary lesion at the base of the right lower lobe was active and not healed. This lesion developed, no doubt, at the time of the attack of severe pain in the right side of the chest.

The tubercles in the liver were older than those in the spleen or serous surfaces. They were evidence of portal stream invasion and very probably that invasion occurred from an ulcer of the intestinal tract. Tuberculous ulcers in the intestinal mucosa are usually the result of invasion from the lumen of the bowel the bacilli having been swallowed. These primary lesions very often heal so that no trace of them is found. The absence of an intestinal ulcer does not rule out invasion from that quarter.

The youngest lesions were in the peritoneum and right pleura. These cavities could have been infected from the lesion at the right base, the pleural cavity by rupture, and the peritoneal cavity by extension through the diaphragm. This explanation is offered as most probable though it is also possible that the peritoneum was infected by the rupture of a tuberculous lymphnode.

The tubercles of the spleen are not yet explained. Since they were present throughout all of the splenic tissue we could think of them as being the result of a blood stream invasion. The spleen may be invaded throughout by extension into it from the peritoneal cavity. That is often demonstrated in guinea pigs which are innoculated, for the purpose of diagnosis, into the peritoneal cavity. In those pigs we often find lesions in the central part of the spleen evidently by extension. Absence of kidney lesions would speak against a blood stream invasion.

The fluid in the left pleural cavity and the pericardial cavity is probably the result of circulatory failure since there were no tuberculous lesions to explain it.

The formation of the fecal fistula is no doubt the result of contaminating the wound with tubercle bacilli from the peritoneum at the time of operation. The activities of these organisms prevented the wound from healing and extended the inflammation into the loop of the ileum which happened to be adherent to the operative site. The hemorrhage was the result of invasion of blood vessel walls by the tuberculous process.

THE TREATMENT OF THE PATIENT WITH PNEUMONIA

H. Brooks emphasizes the fact that to all practical purposes the medical profession is still as helpless in the treatment of pneumonia as it was a quarter of a century ago.

Much, however, has been learned as to treatment of the pneumonia patient in contradistinction to treatment of the disease itself.

The most essential single object to be accomplished in the handling of these patients is rest, not only physical but mental and emotional as well. Quiet surroundings are needed. Visitors should be excluded.

The patient should be allowed to select his own position in bed. Cough should be combated by codeine, morphine or opium in another form. Bromides are also indicated when rest cannot be accomplished by physical means alone.

Where the cough is loose it is probably physiological in intent and is best left alone. When dry and irritating, relief may be obtained by ammonium chloride or the iodides. In still other cases sedatives may be indicated.

Some cases do splendidly under the open-air treatment, others badly, especially those of influenzal origin. Persons from tropical countries cannot stand this treatment.

The room-temperature should be low, except in cases of pneumonia following measles, scarlet fever or influenza and in old age or in traumatic or debilitated cases.

Oxygen is very useful in cases suffering from cyanosis and in certain unexplained cases of dyspnea.

Most fatal cases of pneumonia terminate with a circulatory failure. The basic pathology in most cases of cardiac failure is a myocardial degeneration with a consequent giving way, a dilatation of that portion of the heart exposed to stress, in this disease the right heart. In young healthy subjects preliminary digitalis therapy is not indicated unless signs of circulatory embarrassment appear. In adults and aged patients the preliminary use of digitalis may save the day. In some instances strophanthus, caffeine and strychnia give better results. Caffeine works admirably when the circulatory failure is associated with a nervous defect.

A method of treatment of associated crises of the pulmonary and cardiovascular systems is often seen in a properly timed venesection. This is particularly valuable in the early stages of the disease when the pulmonary congestion, perhaps with edema, is especially critical.

The most satisfactory measures for relieving tympanites are pituitrin or adrenalin, singly or associated, camphor, caffeine and occasionally strychnine with enemas.

The most satifactory of the less frequently observed renal insufficiency is usually along circulatory lines, but theosin, diuretin and caffeine are usually sufficient to reestablish kidney action.

Water, fruit juices and sugar solutions given in abundance are always beneficial. Sufficient alkali to hold the urine nearly at the amphoteric point is often advisable.

Delirium usually calls for the active exhibition of chloral, of the bromides, or for morphine, opium or codeine.

Diet is of little importance.

When the pneumonia patient becomes septic very little can be done.

The patient who recovers from pneumonia will not be completely back to his normal condition for perhaps six months.—*International Clinics*, December, 1927.

VITAMINS A AND D IN COD LIVER OIL

Accumulated evidence seems to have established the fact that vitamin A is not identical with the antirachitic factor; as a consequence, vitamin D has been postulated. Work has been published which shows that some cod liver oils, rich in vitamin A were poor in vitamin D and that others rich in vitamin D were poor in vitamin A. The importance of this matter may be appreciated when it is pointed out that some commercial firms whose products have a satisfactory vitamin A content claim, ipso facto, a satisfactory content of the antirachitic factor vitamin D. The Council on Pharmacy and Chemistry has previously attacked this fallacy. In the new section on Vitamin Foods to appear in the chapter on Medicinal Food in New and Nonofficial Remedies, 1928, the Council states that it does not feel justified in requiring any specific test or standard of antirachitic potency, but it announces the policy of encouraging manufacturers to adopt and publish such methods of testing as will enable them to guarantee a vitamin D potency for their products. For products admitted to New and Nonofficial Remedies the Council permits no claim of vitamin potency unless it is backed up by adequate tests for the kind of potency claimed.—(*Jour. A. M. A.*, March 10, 1928, p. 770).

MISLEADING

"Doctor, my eyes are bothering me a bit; see what you can do for me in the way of glasses."

"Take a seat, sir. And now tell me what kind you've been wearing."

"None, I've never worn glasses in my life. Never needed 'em before."

"Indeed! You will pardon my mistake, but I judge from the mark on the bridge of your nose that you—"

"Oh! That mark? I got that from drinking homebrew out of fruit jars."—Boston Transcript.

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DR. OLIVER WENDELL HOLMES, MEDICAL AND LITERARY GENIUS

Oliver Wendell Holmes was born in Boston, August 29, 1809, the son of a minister. At fifteen he was sent to Philip's Academy, Andover, and later to Harvard College from which he was graduated in 1829. He studied law for a year, but feeling inclined toward medicine he entered Harvard Medical school where he studied for two and one-half years, completing his studies in the hospitals and clinics of Edinburgh and Paris and received his medical degree from Harvard in 1836.

On graduation he was appointed one of the physicians to the Massachusetts General hospital and in 1838 was appointed professor of anatomy at Dartmouth Medical college. From 1848 to 1882 he was Parkman professor of anatomy at Harvard Medical school, and by his versatility and wit was able to make this rather dry subject entertaining to his students.

He spent some time in general practice in Boston but apparently without conspicuous success.

He contributed much to medical literature during these years. The greatest contribution to medical science was made in 1842 in "The Contagiousness of Puerperal Fever", in which he advanced the theory, now generally accepted that the malady can be carried from one patient to another. This idea was so heretical at the time that it received scant support.

He was one of the first men in America to learn the use of the microscope.

He coined the words *anaesthesia* and *anaesthetics*.

While he honored the medical profession he is best known as a literary man. After his resignation from Harvard in 1882 he devoted himself untiringly to literature. He was a voluminous author. His "Old Ironsides", "The Chambered Nautilus", "The Last Leaf", "The One Hoss Shay", "The Autocrat at the Breakfast Table" and "Elsie Vennor" are known to all readers of good literature.

Doctor Holmes died October 7, 1894, at the age of seventy-five. Few men, like Doctor Holmes, have attained equal eminence in science and literature.

A son, Oliver Wendell Holmes, Jr., is one of the justices of the Supreme Court of the United States.

THE PRESENT ATTITUDE IN THE SERUM TREATMENT OF SCARLET FEVER

After the discovery of the cause of scarlet fever by the Doctors Dick, it was natural that a serum should be prepared and used for the cure of the disease. It followed then that the serum having been used rather extensively for both the cure and prevention of scarlet, the pendulum should swing somewhat in the opposite direction and the question arise: What are the arguments for and against its use?

At the recent meeting of the American Medical Association in Minneapolis, this question was discussed both in the section on Diseases of Children and in the section on Preventive Medicine and Public Health. Dr. John A. Toomy of Cleveland reviewed the literature and came to the conclusion that the evidence presented is neither convincing nor conclusive. This was also his contention from his own personal experience. Dr. A. L. Hoyne of Chicago had abandoned its use except in severe cases. Dr. C. G. Kerley of New York had seen several cases in consultation in which the reaction following the use of the serum had been so severe as to warrant his saying he did not advocate using it except in severe cases. He contended he could tell in the first few days of the disease which case would be mild and which severe.

Apparently prophylactic injections of the antitoxin for the prevention of the disease in contacts is limited to those who have a positive Dick test or a positive throat culture. The impression was conveyed that the so-called blanching test for the diagnosis of the disease was not very reliable as it is difficult to interpret.

In the section on Preventive Medicine and Public Health an optimistic attitude toward the whole subject of serum treatment was held. Several who spoke had used the serum extensively in the treatment of the disease and were advocating its use in every case. Dr. Gladys H. Dick spoke and when asked regarding anaphylactic phenomena following serum injections had apparently seen no serious serum reactions.

COMMENT

Scarlet fever in most of our cities in the past three or four years has been mild and the death rate not high. For this reason it is difficult to evaluate the results of serum treatment versus the symptomatic treatment as formerly practiced.

While it may be possible for the average practitioner to say at the outset which case of scarlet fever will be severe and which mild, it must be admitted, however, that it is probably impossible to foretell which case will have complications and which will not.

Scarlet fever in itself is not a serious disease nor is the mortality high. While this is true of the disease itself, the complications are commonly severe and a little patient ill of the disease is not infrequently the victim of a complication which leaves him handicapped throughout his life.

At the worst the only argument against serum treatment is sometimes a mild and on other occasions a severe serum reaction.

Most observers seem to believe that with the use of serum the temperature falls, the rash disappears, complications are lessened, and convalescence shortened. It is the only direct remedial agent the doctor has to offer in the treatment of a patient ill of scarlet fever. In all probability as the making of the serum becomes more perfected most of the dangers of serum reactions will disappear.

—Floyd Clarke.

AND WHAT ABOUT AUTOPSIES?

What per cent of deaths have gone to autopsy in YOUR hospital? Do you know that your hospital to be accredited by the A. M. A. now must have 15% of all deaths autopsied? What per cent in your private practice?

How many have you really asked for? Do you really want them? Why should you want them? And who would conduct them?

The percentage number of autopsies is almost a certain index to any hospital's rating. It speaks emphatically for an alert, studious, progressive staff membership. This means good service and efficient care for the patients entering that hospital. These staff men recognize the unequalled teaching force of an autopsy and strive to carry the practice even into their private work.

It requires courage to ask for a post mortem and it adds work to a busy program. Therefore, the less courageous and the indolent far too often choose to bury their mistakes and lose a valuable teaching force.

Lose it for themselves? Yes.

Lose it for other doctors? Yes.

Lose it for their hospital? Yes.

For their community? Yes, and for medical education in general.

Post mortem study has long furnished European medical education a great advantage over that in America. And why? Largely because of a long established custom, a habit, in vogue in Europe and in America, a lack of understanding by doctor and family, and the presence of emotions at high tide in loved ones. A man will now gladly transport his sick wife across the continent and subject her to any number of distressing ante-mortem tests and examinations in the hope of helping her. When she is dead and further search for the cause of death and the way to have prevented it can no longer even distress her, why should the examination cease? IT SHOULD NOT. And when this grief stricken husband is made to see:

1st, that the correlation of the ante-mortem and the post-mortem findings may solve the problem for himself, his children, his sister, his neighbor, even mankind; and

2nd, that such search and research work is our greatest way of adding to the total fund of medical knowledge, he will not long decline.

He will not long decline provided:

(1) That he is approached with this explanation sympathetically and kindly presented by some one very near to him, as the doctor,

(2) That he is assured that the examination is to be conducted in an orderly, respectful manner and place,

(3) That the body is not to be mutilated but examined as in an extensive operation,

(4) That members of the nursing profession or family may be and by choice should be present, and

(5) That embalming and other factors pertaining to appearance of the body will not be seriously interfered with.

Yes, it takes courage and work, but it pays big dividends. The doctor must learn his argument, he must make the undertaker understand and cooperate with him, he must get the nursing profession and hospital personnel in a helpful attitude. His hospital should have an expert pathologist, but in states like Nebraska these specialists are few and far off. Then get the best substitute possible—perhaps a young man in practice who has had considerable pathological and postmortem work will be available and have a vision for your community. Try him—both of you and all will profit. Try the pathologist in the nearest city. Autos travel fast and an evening spent in an interesting autopsy is far more profitable than most movies.

Have your clinical history read. Correlate the antemortem and the postmortem findings. Be not too critical of the mistaken clinician or practitioner. You may be next. No smoking. No vulgar or other jokes. Clean technique will prevent shocking the feeling of family witnesses present for the first time and help gain the much needed consent for other autopsies. Keep and study your findings. Present them at your county and other medical societies. Profit and let profit by them.

Some hospitals have over 90% autopsies. The city of Minneapolis now has 19% of all bodies dying there autopsied. Over 15% of these are permission posts. Nebraska people have a high degree of understanding. Let us present the autopsy problem to them.

—J. S. Welch.

USE OF OUTPATIENT DEPARTMENT IN MEDICAL TEACHING

Irving S. Cutter, Chicago (*Journal A. M. A.*, March 24, 1928), presents a plan for the use of the outpatient department in medical teaching. He says: The outpatient department, well manned with teaching personnel, adequately equipped and supervised, constitutes by far the most important factor in the teaching of clinical medicine to undergraduate students. Seventy-five per cent of all undergraduate teaching in medicine can and possibly should be done in the outpatient department. It requires far greater skill, training and real thinking power to make a diagnosis and outline the management of a case in the outpatient department than in the hospital where the house officer, the intern and the nurse have all recorded significant data as to the history and the physical and clinical pathologic manifestations before the arrival of the clinician. Therefore, to place outpatient cases in charge of young, untrained clinical assistants and instructors defeats the plan and constitutes a ruthless waste of most valuable teaching material. Instructors of professional rank should be in charge of each clinic each day, serving not only more acceptably to patients and students but as teachers of junior clinicians. There should be enough instructors in each clinic so that patients are not given perfunctory consideration but are handled as thoroughly and as expeditiously as private patients in a well managed office. Arrangement of personnel should be such that there will be a chief of clinic each day in each department to whom all questions of diagnosis may be referred, and who will take the two or three most valuable teaching cases and discuss them with the assigned student group before the close of the period. There should be a full-time fellow in each clinic in actual daily charge. This fellow, a graduate student, manages the clinic and is in entire charge of the nursing and social service personnel. Stenographers, nurses and social service clerks are a necessary part of the personnel. The proper equipment for good outpatient teaching is exactly that of the hospital, lacking only the feature of continuous care in bed. Such an equipment is essential even though the teaching hospital occupies the same or an adjoining building unless the hospital laboratories and services are ample and are under full control of the outpatient services. Outpatient teaching is advantageous both to the student and to the instructor.

VIRULENT INFECTIONS OF HAND AND FOREARM

C. A. Roeder, Omaha (*Journal A. M. A.*, April 28, 1928), has induced prophylactic inflammation in five selected cases of virulent suppurating and nonsuppurating infections during the past twelve years and in no instance has he seen the ascending infection extend beyond it. He has never placed these drains less than forty-eight hourse before the ascending infection reached this area, feeling that it took at least that much time to bring about a chemical and traumatic inflammation in healthy tissues. He recommends this procedure only in those infections which progress in the presence of accepted treatment, and in which the loss of a limb or a life seems imminent. The sharp line of demarcation, in these five instances, between the virulently infected tissues below and the healthy tissues above could not, however, have been made by any other agent than the prophylactic inflammation. The point of election is generally from 4 to 6 or more inches above the apparent upper limit of the ascending infection. Incisions from 2 to 3 inches through the skin, fat and deep fascia are made on opposite sides of the arm. The index finger then separates the muscle bundles from one another and from the bone and interosseus septum. In the forearm this is generally carried out only in the flexor surface; in the upper arm, or both the flexor and the extensor surfaces. The fat is left attached to the skin as one layer and is separated from the deep fascia beneath from one incision to the other. Thin chemical gauze strips of desired width are then packed lightly in the various planes of cleavage. If signs of inflammation and suppuration are unexpectedly encountered, other prophylactic incisions should be made higher up, as was done in case 2. How long these prophylactic coffer-dam producing stains should be left in place will depend on the judgment of the surgeon; in Roeder's experience, from forty-eight to seventy-two hours has sufficed. As strict asepsis as possible must be maintained while these wounds are being made, which requires considerable care in the presence of sepsis so near by.

NORTH NEBRASKA IN THE EARLY EIGHTIES

The story of a prairie doctor of the eighties requires that a foundation be laid by giving a descriptive sketch of the country and the people in pioneer days.

The particular part of north Nebraska to which this story pertains was permanently settled about 1870 and as I came to it twelve years later, in 1882, I may be said to belong to the second column of pioneers.

The village was of all wood construction and most of the business houses were of but one story. Small panes of glass were used in the store fronts which made them anything but attractive. There was no established grade to the business street. The sidewalks were, therefore, irregular, uneven, up or down, as the several adjoining property owners saw fit to lay them. Business was not rushing in any of the stores and it was a common practice for persons who came in to do trading, or to gossip, to sit on the counters. The railroad had reached the town a little over two years before and the service consisted of one mixed freight and passenger train each way a day.

The country is of gently rolling prairie. The early settlers who had come with a little money had built cheap frame houses of two, three, four or five rooms; those who could not afford frame houses built of prairie sod, laid up after the manner of brick but without mortar, or made dugouts in the hillsides with earth floors if they could not afford to buy flooring material. There were few barns; most people got along with sheds for horses and milch cows. Often these were made of poles and straw. Cattle, not in the milking class, might have a wind-break to the northwest or a stack of straw or perhaps nothing to protect them against the winter blasts.

The early settlers followed the water courses and had shallow dug wells of a few feet depth for water. Those who came a little later had to take the upland prairie and their wells, while deeper, also tapped the upper or surface stratum of water. Typhoid fever being for the most part a water-borne disease, became very prevalent. The stock yards were close to the open wells for convenience and surface contamination was, therefore, inevitable. In the later eighties the two physicians then occupying the field must have had seventy-five cases of typhoid to treat one fall. Whole families were stricken, one after another. I was in charge of one family consisting of father, mother and ten children all of whom had the fever except the mother and nursing babe. The father was one of the last to develop the fever and as his was a mild case he had much time for reflection and speculation as to the cause of the wholesale affliction. He was one of the brightest and most conscientious men in the settlement and one of the most prosperous, and the soul of honor. He was a deeply religious man and wondered why the Lord had placed this scourge upon his family. He asked me what could have caused this plague. I told him it was well known that typhoid was a water-borne disease and that, therefore, his well must be at fault. He told me he could not believe it—that it could not be so. He reflected upon my proposition, however, and after he recovered he thought to test the doctor's assertion, so they cleaned out the well, bringing up rotton corn cobs, rotten corn husks, dead rats and mice and a dead rabbit! He came to town to tell the doctor he now believed in the theory of water contamination. Within a few years with a measure of prosperity and with the greater need for water for the stock, the deeper driven or bored wells and windmills came into use and typhoid fever practically disappeared.

There were practically no laid out roads in the country after one got several miles from town. There were no fences as I recall the country. There were trails. If you wanted to go to a particular place you followed a trail in the general direction until you reached the place aimed at.

The lumber wagon was the conveyance of every day use. There were no buggies, carriages or spring wagons in the community. Indian ponies were ridden for single travel. The first spring wagon was a curiosity and the first carriage purchased was an indication of the wealth of the owner, an attorney, whose wife had inherited a fortune.

Living conditions were in many cases worse than housing conditions. Cooking utensils and dishes were scarce with most people. Beds were crude, many of them home-made frames, bedded with straw ticks, which, varying with the housekeepers ideas of cleanliness, were changed at longer or shorter intervals. Bed covers, including feather beds, were not abundant and subject to the same care as the ticks according to the ideas of the family. Homes were without carpets, rugs or wall adornments.

It is not to be wondered at that contagious and infectious disease played havoc with the pioneers. Diphtheria and scarlet fever were particularly severe and fatal. Huddled together in poor, illy ventilated houses, whole families contracted the disease and many died. People became panic stricken and changed from one doctor to another. Usually the first cases in an outbreak were the most severe and fatalities were frequent. By the time several had died under the care of the first physician called, the people would change to another, on the theory that he could do no worse. In this way I acquired a number of cases the first winter and had a lesser mortality than my older confrere—not because of any newer or better treatment. One man asked me what caused diphtheria. I endeavored to explain to him that it was a germ disease in the blood, that it was catching one person from another, and that people should be isolated to stamp it out and neighbors not allowed to visit the homes to sit up with the sick all night, as was the custom of the pioneers. He told me very decidedly in German "Das glaube Ich nicht" (I do not believe that), to which I as firmly replied it did not alter the fact whether he believed or not!

When a doctor was called to a patient, even though it was diphtheria, pneumonia or typhoid, many persons expected the doctor to leave enough medicine to last for the cure. They would tell the doctor, "Well, I will let you know how we get along". It took some argument to convince people that the patient needed daily attention.

The fees in the early days were one dollar for town visits, day or night, and country calls were made on a basis of fifty cents a mile. Theoretically one was supposed to charge something extra for visits but this was rarely done. Confinements were cared for at the flat rate of ten dollars whether in town or country; but instrumental or manual deliveries were charged extra. Physicians were rarely called to confinements in the country unless there was trouble in the delivery. One of the first cases to which I was called was a German woman who had been in severe labor for 24 hours before I was called. I delivered her of a dead foetus with forceps—and am still waiting for my fee.

EDITORIAL PARAGRAPHS

There is 96% of illiteracy in India, it is said.

In 34% of prostatic infections there is no history of venereal infection.

Dr. Ephriam McDowell of Kentucky did the first ovariotomy, in 1809.

The first operation for ruptured tubal pregnancy was done in 1883 by Lawson Tait.

Seven cities with more than 100,000 population had no death from typhoid fever last year.

Doctors generally do not realize their debt to the dealers in drugs and other supplies, says the *New York State Journal of Medicine*.

The Inter-State Postgraduate Assembly of North America will meet at Atlanta, Georgia, October 15-19. The usual full program of notables is to be presented.

A medical friend wants to know what to do in the treatment of goiter when *Hygeia* advertises the iodine treatment and the *J. A. M. A.*, says iodine treatment is pernicious.

A Medical Boat has been placed on the Yukon to give medical service to the natives along a stretch of 1200 miles of the Yukon in Alaska and on some of its tributaries.

The first American physician to introduce uterine auscultation and the first to use the speculum in diseases of women was Dr. Isaac Taylor of Bellevue Hospital Medical College.

An old Chinese manuscript says that a physician named Hoa-tho, who lived in the third century, gave his patients a preparation of hemp to render them insensible during surgical operations.

The commission appointed to inquire into the cause of the St. Francis, California, dam disaster, has reported that the accident was due to defective foundations. Two geologists were in the commission with the engineers.

A special Dermatology Number of *American Medicine* was issued in May. It is comprehensive in scope, contains 27 special articles, some by men of international reputation, and is almost of text book value to many practitioners. Price fifty cents.

Congress has committeed itself to an annual endowment toward the Gorgas Memorial Institute at Panama of $50,000 and President Coolidge signed the bill. This institution is the creation of the American College of Surgeons, as a memorial to General Gorgas.

The *Federation Bulletin* states that 37.9 per cent of the graduates of 1915 and 1920 are limiting their work to special lines and that if those of the classses of 1920 not now specializing, carry out their expressed intention, 73.7 per cent will soon limit their practice to special lines.

Albee, in *Surgery, Gynecology and Obstetrics*, reports two cases of enlargement of the parturient canal by bone graft, both successful and both followed by normal labor. Symphysiotomy was done, a bone graft was taken from the tibia and grafted between the previously spread innominate bones.

Tragic endings of patients at state institutions for the insane at the hands of attendants hired to care for them, are very revolting to one's sense of the eternal fitness of things. Such tragedies may rarely be justified. They occur too often. The attendant usually gets a verdict of justifiable homicide. The relatives weep for a day. The victim is buried—and the incident is forgotten.

The "cardiotachometer", the invention of Doctor Boas of the Montifiore hospital, New York, has arrived. This instrument is actuated by the action current of the heart and records automatically the totality of heart beats over long periods of time, even in the moving person. Free motion of the body and extremities does not interfere with the regular signalling of the action current of the heart, says the *J. A. M. A.*

We have the Journal A. M. A., as authority for the statement, that Gladys P. Winegar, in a recent study at the University of Nebraska found that underwear after one use will contain about 400,000 bacteria per square inch, while after six days of use about 10,000,000 bacteria per square inch may be counted. The organism most commonly found was the *Micrococcus Albus.* Washing and sun drying satisfactorily eliminates the germs.

Nebraska State Medical Journal readers will do well to get the viewpoint of an article in the *Survey* for July 15, entitled "The Village Doctor". It brings out the proposition suggested by your editor a year ago that the rural area surrounding a medical school is relatively well supplied with physicians trained in that school, and that the solution of the problem of medical care in rural communities lies in the state developing medical education.

Leprosy is not hereditary, but it is contagious. It is not know how the germ is passed from the leper to the healthy person. It is believed that long and intimate contact is necessary to make contagion effective. It is also believed that a person in full health is immune. Walker of the University of California, after fourteen months spent at Honolulu investigating the cause of leprosy, seems to have found additional evidence supporting the theory that leprosy is an actinomycosis and that it is not contagious. It is suggested that its invasion is due to barefootedness.

THE KANSAS CITY FALL CLINICS

The subject matter at the vast majority of the larger medical meetings is of such a character as to be of little if any benefit to the general practitioner. He is unable to digest the vast array of statistical data and laboratory investigations that must find place in an ultra-scientific paper. Later, at his leisure, it is possible for him to read in his journals the very papers he listened to, and cull from them the practical application of such parts as are of interest to him and of actual value in his work.

The practicability of the subjects chosen for the Annual Fall Clinical Conference at Kansas City, October 9th, 10th and 11th, is well shown by a brief inspection of the program printed on page IX, this issue. While this program may not arouse any marked enthusiasm on the part of the specialist, it will undoubtedly appeal strongly to the general practitioner as a practical post-graduate course in his every day problems. It is the purpose of the Clinical Society this fall to present only such practical subjects and discuss the problems of the busy man in general medicine.

CREIGHTON MEDICAL COLLEGE GRADUATES, 1928, INTERNSHIPS AND ADDRESSES

Earle C. Baldwin, St. Joseph's, Omaha.
Sylvester Berens, Columbia Hospital, Seattle.
Sebastian Carnazzo, St. Joseph's, Omaha.
J. W. Christie, U. S. P. H. S., New Orleans.
E. J. Clarke, St. Elizabeth's, Dayton, Ohio.
Dallal Joseph, Evang. Covenant Hospital, Omaha.
T. T. Dawson, St. Joseph's, Omaha.
Francis Dill, St. Anthony, Oklahoma City.
J. L. Doyle, St. Alexis, Cleveland.
L. H. Dunham, St. Mary's, Kansas City, Mo.
Jerome Eckrich, Mercy, Toledo, O.
Cirino Finocchiaro, St. Mary's, Cincinnati.
Meyer Greenberg, St. Vincent's, Portland, Ore.
Albert Hale, Sisters of Charity, Buffalo.
Harold M. Hand, St. Mary's, San Francisco.
Paul Hartendorp, St. Luke's, Denver, Colo.
Theo. Stuckert, Douglas County Hospital, Omaha
Clifford Wolf, Bethesda, Cincinnati.
Theo. Havlicek, St. John's, Fargo.
Joseph D. Hazlett, Colorado General, Denver.
Melvin C. Henrich, Providence, Detroit.
Albert Leo. Hildinger, St. Margaret's, Kansas City, Kansas.
Geo. Holleran, San Diego County, San Diego.
O. A. Houzvicka, San Diego County, San Diego.
Leo. W. Keenan, St. Alexis, Cleveland.
C. E. Leisure, Seattle City Hospital.
Ernest Lenneman, St. Margaret's, Kansas City, Mo.
De Witt S. Lowe, Immanuel, Omaha.
A. S. McDermott, St. Mary's, Kansas City, Mo.
Wm. V. McKnelly, Missouri Baptist, St. Louis.
Wm. B. McTaggart, St. Mary's, Hoboken.
Edward S. Maloney, St. Mary's, San Francisco.
Ellsworth F. Malloy, St. Mary's, Hoboken, N. J.
Floyd James Malloy, St. James, Butte, Mont.
Clarence S. Moran, St. Joseph's, Omaha.
William K. Murphy, St. Mary's, San Francisco.
Frank Anthony Neisuis, St. Joseph's, Omaha.
Edward James O'Brien, St. Elizabeth, Lincoln.
Raymond T. O'Neill, St. Joseph's, Omaha.
Edmund V. Pellettiere, St. Joseph's, San Francisco.
Joseph R. Plank, St. Joseph, Denver.
Adrian Robinson, St. Mary's, Kansas City, Mo.
Robert W. Rose, St. James, Butte.
Gilbert J. Srb, St. Joseph's, Omaha.

UNIVERSITY OF NEBRASKA MEDICAL GRADUATES, 1928, INTERNSHIPS AND ADDRESSES

Albertson, Leland C., Jefferson Davis, Houston, Texas.
Anderson, Chauncey L., Baylor Univ. Hosp., Dallas, Texas.
Arkwright, Richard M., St. John's Hosp., Brooklyn, N. Y.
Baker, Kenneth C., Nebraska Uni. Hosp., Omaha.
Beach, Glen O., St. Margaret's, Kansas City, Kan.
Bennett, Clyde R., St. Elizabeth's, Washington, D. C.
Bennett, W. E., Highland Park, Highland, Mich.
Borre, Helge, Immanuel Hospital, Omaha.
Burlingame, Donald L., Wesley, Wichita, Kansas.
Cram, Roy S., Univ. of Nebr. Hosp., Omaha.
Christlieb, John M., Univ. of Nebr. Hosp., Omaha.
Crozier, Henry C., St. Catherine's, Council Bluffs, Iowa.
Dean, Joe O.
Dewey, Leonard A., Methodist Hosp., Spokane, Wash.
Edstrom, Alice D.
Endres, Gregory L., Calif. Lutheran, Los Angeles.
Engel, Earl H., St. Mary's, Detroit, Mich.
Everetts, Arthur R., University Hospital, Omaha.
Gemoets, Henry N., Jefferson Davis, Houston, Tex.
Graham, James W., Allegheny General, Pittsburg, Pa.
Greenberg, Ben, University Hospital, Omaha.
Heinz, Theo. E., University of Chicago Hosp.
Hopkins, Howard L., Seattle General, Seattle, Wash.
Katsuki, David I., Deaconess General, St. Louis, Mo.
Konterwitz, Harry K., Metropolitan Hosp., N. Y.
Kuncl, Joe, University Hospital, Omaha.
Lanspa, Joseph A., Providence Hosp., Detroit.
Leavitt, Reuben D., Jewish Hosp., Cincinnati, Ohio.
Lewis, James T., Kansas City Gen., Kansas City, Mo.
Linsley, Claude H., Colo. General, Denver, Colo.
Martin, John K., Swedish Hosp., Seattle, Wash.
Miller, Mrs. D. E., Mo. Methodist Hosp., St. Joseph, Mo.
Miller, D. E., Mo. Methodist Hosp., St. Joseph, Mo.
Moritz, John R., Lakeside Hosp., Cleveland, Ohio.
Morrison, Arlo, Seattle City Hosp.
Morse, Esther M.
Mossman, Thomas M., St. Elizabeth's, Lincoln, Nebr.
Mulligan, Arthur M., Jenny Edmundson Memorial, Council Bluffs.
Musgrave, Rhoda U., Highland Hosp., Oakland, Calif.
Nilsson, Gustav N., Immanuel Hospital, Omaha.
Pelikan, Charles C., Wise Memorial, Omaha.
Peterson, Arthur E., University Hosp., Minneapolis.
Peterson, John C., Clarkson Memorial, Omaha.
Pfeiffer, Eric P., Steele City, Nebr.
Prescott, Kenneth E., St. Mary's, Detroit, Mich.
Preston, Robert L., Oatman, Arizona.
Pyle, Bert W., Scribner, Nebraska.
Rasgorshek, Robert H., Covenant Hospital, Omaha.
Rigg, James P., Immanuel Hosp., Omaha.
Sabin, Clarence W., St. John's, Tulsa, Oklahoma.
Saiki, Arthur K., Univ. Station, North Dakota.
Smith, Jerome H., 1006 Sharp Bldg., Lincoln, Nebr.
Sorenson, Regnar M., Iowa Lutheran, Des Moines.
Taggart, Samuel R., Long Island College Hosp., U. S. A. Army.
Thompson, Ralph M., University Hospital, Omaha.
Valentine, Linville F., University Hospital, Omaha.
Van Valin, James C., Swedish Lutheran, Seattle.
Wagner, Carl P., Clarkson Memorial, Omaha.
Webster, Wm. W.
Wells, Thomas.
Willmarth, Edwin H., Clarkson Hospital, Omaha.
Wilmoth, Marion E., Seattle City Hospital, Seattle.
Wynegar, David E., Lincoln Gen., Lincoln, Nebr.
Zahorchak, Joseph A.
Zierott, Leroy L.

BOOKS REVIEWED

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1927. Cloth. Price, postpaid, $1.00. Pp. 103. Chicago: American Medical Association, 1928.

The Council on Pharmacy and Chemistry of the American Medical Association annually publishes the reports which tell the reasons for non-acceptance of those products which during the year it has found unworthy of recognition. Some of these reports have been published in abstract in The Journal; all are contained in full in the volume which is the subject of the present review. The physician who has learned to ask the manufacturer's "detail" man, "If it is not in New and Non-official Remedies, why is it not?" will find here the answer which that personage will no doubt hesitate to give him. The book shows the practical working out of the principles which the Council's experience has shown to be essential in its fight for rationality in the field of proprietary medicines.

Among the products reported as unacceptable are: Bismogenol, which is bismuth salicylate under a fancy name; Desitin, a complex mixture from Germany; Hexol, a pine oil preparation for which unwarranted claims are made; Warnink's Advocaat, a mixture of potassium arsenite and alcohol in the form of an egg nog marketed without emphasis of the arsenic content in a way likely to lead to harmful and ill advised use by the public; and Solvo Aspirin, another futile attempt to market a solution containing acetylsalic acid rendered soluble by addition of sodium bicarbonate.

A glance at the index shows, however, that these reports do not always deal with articles that have been actually rejected by the Council. Preliminary reports are frequently made on new products which appear promising but for which there is not yet sufficient evidence to warrant inclusion in New and Nonofficial Remedies. Included in this group this year are: a report on Blueberry Leaf Extract, which gives promise of being useful in the treatment of diabetes; a report on "Plasmoquin," a substitute for quinine in the treatment of malaria brought out in Germany but thus far withheld from the market by the American agent; a report on "Alpha-Lobeline", which has been the subject of many conflicting estimates but which lacks conclusive evidence demonstrating its usefulness; two reports on Ephedrine, announcing standards, evaluating therapeutic usefulness, and finally announcing the acceptability of the drug and of two of its salts; a report on Bismarsen, a new derivative of arsphenamine containing bismuth and proposed for use in the treatment of syphilis.

Of much current interest is the reprint of the report of Dr. R. A. Hatcher reviewing the literature on the Gwathmey method of colonic anesthesia and evaluating the present standing and usefulness of this method. This report is an outstanding example of the way in which the Council in addition to its other activities aims to contribute to the advance of general medical knowledge.

NEW AND NONOFFICIAL REMEDIES, 1928, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1928. Cloth. Price, postpaid, $1.50. Pp. 489 XLIX. Chicago. American Medical Association.

This bock is the work of a distinguished organization, the Council on Pharmacy and Chemistry of the American Medical Association, which some twenty years ago was founded to clean out the Augean stables of proprietary medicines. The Council's plan was and has been the publication annually of a book containing descriptions of those unofficial preparations which after careful investigation have been found worthy of recognition and consideration by the medical profession. Such has been the devotion of the Council members, who serve without remuneration, and such the recognition achieved by their work that today the book describes all the new proprietary products which have a scientific base and which give promise of therapeutic usefulness. The physician who best safeguards his own interests as well as those of his patient will give no consideration to any proprietary medicinal agent which is not listed in New and Nonofficial Remedies.

THE SOCIETIES

The **Madison County Medical Society** met at Elgin, July 10. Dinner was served at the Methodist Church. Dr. A. L. Smith, Lincoln, gave an illustrated talk on heart conditions.

The annual meeting of the **Elkhorn Valley Medical Society** was held at Norfolk, July 18. Owing to road conditions the attendance was below the average, but the program was one of unusual excellence.

Dr. Lucien Stark, Norfolk, gave a dry clinic on (1) pernicious anemia and (2) the newer treatment of epilepsy. Dr. A. C. Barry, Norfolk, presented a case of bone sarcoma in a growing girl. Dr. J. P. Lord, Omaha, exhibited cast and photos of a case of contractures of hand and fingers following a burn, now undergoing reconstructive surgery. At the Norfolk State Hospital the cases undergoing malarial treatment for neuro-syphilis were exhibited with comments on their progress by Supt. G. E. Charlton. A number have been restored to their families and friends and are able to pursue useful occupations. About fifty per cent are markedly benefited. But one case has failed to respond to the treatment.

The following scientific papers were presented: "Management of the Seriously Sick Infant", E. S. Wegner, M. D., Lincoln; "Some Unfortunate Experiences in a Country Practice", F. G. Dewey, M. D., Coleridge; "Hypernephroma", P. H. Salter, M. D., Norfolk; "Use of Lactic Acid Douches in Vaginal and Cervical Infection", Charles F. Moon, M. D., Omaha.

Resolutions of respect and condolence on the death of Dr. E. Willard Powell, Omaha, a past president, were passed.

Dinner for thirty-five was served at the Norfolk hotel.

Dr. John Buis, Pender, was elected president; Dr. E. L. Brush was re-elected secretary. The next annual meeting will be in Norfolk.

The second quarterly meeting of the **Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Society** was held at the hospital in Pender on the 28th of June with about twenty members and visitors present.

The program took the form of a clinic in which Drs. Buis of Pender, Gramlich of Walthill and Francis of Bancroft presented a great variety of cases in a very interesting and instructive manner.

The doctors wives met at the home of Doctor Buis and there organized a Woman's Auxiliary to the medical society.

After both meetings had adjourned, the ladies spread a very fine luncheon under the large trees on the hospital lawn, which was thoroughly enjoyed by those present.

—C. L. Phillips, Sec'y.

HUMAN INTEREST TALES

Dr. H. A. Paden, Hartington, is ill in a Sioux City hospital.

Dr. E. C. McAleer, formerly of Norfolk, has located at Tecumseh.

Dr. Leander Schaffer, formerly of Hebron, has located at Petersburg.

Dr. R. S. Martin, Red Cloud, is doing postgraduate work in New York city.

The golden wedding of Dr. and Mrs. J. C. Shepherd, Rulo, was celebrated June 19th.

Dr. R. D. Schrock, Omaha, has returned from a three months' sojourn in Europe.

Dr. W. C. Bartlett of Alma was a delegate to the Democratic convention at Houston.

Dr. J. M. Dallal of Omaha has become house physician of St. Luke's hospital, San Francisco.

Dr. J. R. Leibee, Beatrice, suffered serious injuries in an auto overturn about the first of July.

Dr. Thomas Dorwart, Lexington, and Miss Virginia I. Greene, Omaha, were married June 27, 1928.

Dr. Otto Housvicka, Omaha, has been appointed house physican of the San Diego General hospital.

Dr. and Mrs. C. P. Fall, Beatrice, have gone abroad for an extended tour of western European countries.

Dr. Carl Rusche of Hollywood, Calif., visited his sister, Mrs. F. H. Morrow at Columbus, and other friends, in June.

It was Dr. and Mrs. E. L. Hustead, Scribner, who went abroad early in June; not the Dr. Hustead (C. D.), of Falls City.

Dr. D. C. Bryant, Claremont, California, former dean of Creighton Medical School, spent some time in Omaha during the early summer.

Dr. Joseph H. Whalen, for the past year resident physician of the Douglas County hospital, has become resident in neurology of the Boston City hospital.

Dr. George E. Morris, formerly associated with his father, Dr. George H. Morris, Oshkosh, has located at Scottsbluff in association with Dr. George E. Griggs.

Dr. G. E. Peters, Randolph, is erecting an office building of a size to indicate a complete office outfit and emergency hospital facilities will be installed.

The Dr. A. F. Jonas family, Omaha, is spending the summer at Lake Mendota, Wisconsin, where the doctor is recuperating from an illness contracted last winter.

Dr. J. W. Graham, who was locum tenans for Doctor Cameron at Herman the past winter and spring, has become an intern at the Alleghany General hospital, Pittsburg.

The Lincoln Sanitarium dating back to 1893 is to be closed August 1st, and instead the Everett group will establish a clinic in the Sharp building and will have contracts with the several Lincoln hospitals.

Dr. F. L. Frink, Newman Grove, prominent legionnaire, made three trips this spring to Washington for audiences with General Hines, chief of the veteran's bureau, in the interest of a veteran's hospital for Nebraska.

NECROLOGY

George H. Newton, Fairbury, Nebr.; University of Tennessee College of Medicine, 1912; died at Greeley, Colorado, following an operation for appendicitis, June 22, aged about fifty-one years.

Harry L. Mantor, Sidney, Nebr.; Nebraska University College of Medicine, 1909! well known physician; died July 5, 1928, of organic heart disease, aged forty-seven years.

Harry B. Metheny, Aberdeen, Wash.; Cotner University Medical College, Lincoln, Nebr., 1916; son of Dr. and Mrs. Samuel Metheny, Lincoln; a former practitioner of Lincoln, but for the past six years a resident of Aberdeen, Wash., died following an operation, July 13, 1928, aged about 35 years.

TOBACCO ANGINA PECTORIS

Eli Moschcowitz, New York (*Journal A. M. A.*, March 10, 1928), reports four cases in which tobacco smoking caused symptoms closely resembling the angina pectoris of coronary or aortic disease. The variety of tobacco used apparently makes little difference, although the author's cases, in the main, resulted from smoking Turkish and Egyptian cigarets. The pains of tobacco heart have the following charactertistics distinguishing them from those resulting from coronary or aortic disease: 1. The pains are more intense and of longer duration in tobacco angina than in true angina. 2. The pains are more likely to arise during complete rest, and may even awake the patient from a sound sleep. In true angina the attacks are usually induced by exertion, especially after a meal, and by emotion. In these particulars, the pain of tobacco poisoning resembles the true neuralgias. A prominent feature is the apparent sensitization that occurs. In a number of the author's patients, a greater or lesser degree of pain was induced by mere puffing of a cigaret, or even when the patient was in an atmosphere of tobacco smoke. In three of the patients there was no objective evidence of cardiac or vascular disease, as determined by modern methods of examination; nor were there in the interval between the attacks or subsequently any subjective evidences of such disease. In the other case, there was evidence of disease or disturbed function, as shown by blood pressure determinations, teleoroentgenograms and electrocardiographic determinations. In three cases the electrocardiographic tracings showed some changes suggestive of the intraventricular conduction disturbance, a condition associated with the clinical syndrome of angina pectoris. There are a number of ways in which the use of tobacco may be related to this condition: 1. There may not be any relation, and the anginoid pains may have ceased not because but in spite of the discontinuance of smoking. The mere cessation of symptoms after discontinuance of smoking is not final proof that tobacco was the cause, although in one case all the symptoms recurred at three separate intervals soon after the resumption of the old habits, and gradually ceased after the discontinuance of smoking. The tobacco may have caused sufficient sclerosis of the coronary arteries or aorta to induce angina. The use of tobacco may have caused subjective disturbance in a patient whose heart was seriously injured; in other words, the tobacco is merely the exciting cause in a patient with potential angina. This is by far the most likely view and is a strong argument for forbidding tobacco to patients with true coronary or aortic disease entirely and forever. To limit the use of tobacco in patients suspected of tobacco poisoning is not enough. Withdrawal of tobacco should be complete.

"Mandy, I'se a sick man," said Jake, looking very miserable. "At de horspittle dey says I'se got berkerlosis."

"All right, Jake, we'll take keer of you, and git rid of dat berkerlosis."

A week later Jake stumbled in, more woebegone than ever.

"'Taint no use; Mandy, nary bit of use. I ain't never gwine git well. De doctors say dis morning I got two berkerlosis."

PRENATAL AND POSTNATAL CARE

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PRENATAL CARE*

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The object of this paper is to bring out in brief form the essential points in prenatal care which all physicians should be called upon to give their patients. If we of the medical profession are to make pregnancy and labor safer, we must have complete supervision of the pregnant woman from a time early in her pregnancy. Women, as a class, realize this and are engaging a doctor for their confinement earlier than formerly. We must encourage this practice, as it enables the doctor to learn the traits and constitution of his patient, watch for any symptoms of disease, and prepare her properly for her labor.

On the first visit the physician should record the patient's past history. A history of tuberculosis, scarlet fever, tonsillitis, rheumatism, diphtheria, abdominal and pelvic operations places us on guard for any of the sequelae of these conditions. From the character of the previous pregnancies and labors we can gain much valuable information as to the conduct of the present pregnancy. To do this we must know the date of termination, the period of gestation, any complications of the pregnancy, the character of the labor, whether the onset was spontaneous or induced, the duration, the termination, whether spontaneous or artificial, and if artificial, what method, any other complications of the labor. Make inquiry into the puerperium for any history of infection, hemorrhage or operation. Determine if the child was alive or dead at birth, and if dead whether it was macerated. Whether it was premature or at term. The health of the child at present. If dead the cause of death. After obtaining these facts take up the present pregnancy, ascertain the date and character of the last menstruation; the presence or absence of nausea, vomiting, and quickening; and the probable date of delivery.

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Now we come to the physical examination, which should be a complete general and pelvic examination. Note the general appearance and carriage; the condition of the skin and hair; any pathology in the eyes, mouth, nose and ears. Be sure to examine the teeth, and palpate neck for goiter and enlarged glands. Make a careful examination of the lungs and heart. Record the systolic and diastolic blood pressure, the pulse, temperature, and weight. Palpate the abdomen in search for any acute or chronic condition or tumor. Examine the extremities for edema, varicose veins, flat feet, and other deformities.

A vaginal examination must be made to determine the existence of a pregnancy, the position of the uterus, the presence of a pelvic tumor or venereal disease, and the pelvic contours, the promontory, sacrum, coccyx, ischial spines, arch, and tuberosities. A vaginal examination during the last month of pregnancy, or during any period of vaginal bleeding, should be done under strict aseptic conditions. Rectal examinations may be substituted.

The external pelvic measurements are taken. But I merely mention these in passing, as they will be taken up in detail in one of the following papers.

Always make a routine urine examination. A blood Wassermann can be taken.

If the history or physical examination reveals anything abnormal, we can govern ourselves accordingly. The outcome for a woman with a contracted pelvis; an extra-uterine pregnancy; an ovarian cyst; a bad heart or kidney lesion; or any other trouble is much more favorable if discovered early, than if left to chance discover later on.

Each pregnant woman should be advised on the following subjects: Dress, diet, the bowels, the kidneys, exercise, bathing, mental occupation, maternal impressions, coitus during pregnancy, care of the breasts, preservation of the figure.

The present style of dress is good for the pregnant woman, as all the clothes should hang from the shoulders. Heavy skirts should not be worn. It is much better to wear warm drawers. All tight fitting clothing, bands or round elastic garters must be avoided. The pregnant woman throws her head and shoulders back in order to keep her balance. If she wears high heels, it throws her body still more forward, and the woman must throw her head and shoulders further back. This causes pain in the loins and a stretching of the abdominal muscles. For this reason low heeled shoes are the best. In multiparae with pendulous abdomens, and in most primiparae toward the end of pregnancy, a light weight woven abdominal supporter will be found very comfortable. Most of the maternity waists on the market are okeh. Corsets are injurious, as they force the uterus and its contents down into the pelvis and against the lower abdominal wall, causing congestion of the pelvic veins, and a weakness of the abdominal muscles. Club feet and wry neck may result from tight corsets.

In regard to the diet, a woman's ordinary habit need be little disturbed. She need not over eat because she eats for two. Meat and broths should be restricted. Fried foods and rich pastry should be avoided. The remainder of the diet should consist of cereals, vegetables, and fruits. The vegetables and fruits with a liberal amount of water will aid the bowels. Milk, both sweet and fermented, are good. Alcohol is forbidden, both because of its effect on the mother and the child.

Most women are constipated because of habit, and by regulation the habit can often be corrected. First, the patient should go to stool at a regular time each day, preferably after breakfast. She should sit there without straining for at least ten minutes, and if there is no movement, the action may be stimulated with a small enema. Injection of two or three ounces of sweet oil into the rectum at night is often a great aid. Second, the patient must drink an abundance of water. Third, the diet must contain a liberal amount of fruits and vegetables. Fourth, if it becomes necessary to resort to drugs, the drastic purgatives must be avoided. Cascara is good. Mineral oil is an excellent intestinal lubricant. In my practice, I obtain the best results with an emulsion of liquid petrolatum and agar. The emulsion does not contain enough agar to absorb much water, but it makes a good tasting mixture. Avoid the emulsions containing phenolphthalein, as the dose of phenolphthalein is too large for continuous use.

A terrific strain is thrown on the kidneys during pregnancy, and they should be carefully watched. Frequent urine examinations are essential. The doctor should have a four ounce sample of the morning urine, at least once each month, and each two weeks during the later months of pregnancy. If there is any indication of trouble the examinations should be more frequent. Always test the specific gravity, albumin and sugar. Many cases of eclampsia and toxemia can be discovered and forestalled in this way. Blood pressure readings are just as essential, for a rise in pressure often occurs before any urine symptoms appear.

A moderate amount of exercise is essential. Walking is best. House work is desirable. Violent exercise, such as running, jumping, horseback riding, tennis, dancing, and swimming are to be condemned. Long journeys by rail or auto must not be taken unless necessary. If a woman has a tendency to abort, she should be especially careful of her exercise.

During pregnancy the skin secretes more, so that warm daily baths are most desirable. A clean skin aids the kidneys. Cold and hot baths, Turkish and sitz-baths are dangerous as they may cause uterine contractions. Vaginal douches must not be taken unless indicated by disease, and then the tip must not come in contact with the cervix, and very little pressure must be used.

As to maternal occupation, housework and good reading material are the best to take up a woman's time. There is no proof that fine literature will make a child intellectual.

There is no basis for believing that maternal impressions and shocks affect the fetus.

Coitus during pregnancy should be prohibited because of the danger of producing abortion and infection. It also seems to aggravate the nausea and vomiting.

The breasts should be supported by a bust supporter which is not too tight. Care should be used not to injure the glands. The nipples should be bathed and kept soft with sweet oil, vaseline, or cocoa butter. Alcohol and other astringents should not be used unless the nipples are very tender, as they tend to harden and cause cracks in the nipples. If the nipple is undeveloped or pressed in, gentle attempts to draw it out by the fingers should be made during the last month of pregnancy. For a true inverted nipple little can be done.

During pregnancy there is a rounding of the hips, a broadening of the busts, and the woman takes on a more mature and matronly appearance. This cannot be avoided. But the so-called high stomach which is the result of the overstretching of the abdominal muscles, can almost always be avoided by doing away with the use of a corset, and high shoes, and by exercising the proper care of the bowels after labor. Abdominal support with an obstetrical binder during the later months of pregnancy is a great aid. The binder after labor makes the patient feel better, but will not prevent a high stomach. Women with swollen legs and varicose veins should wear elastic stockings.

At the beginning of the ninth month the patient's abdomen should be carefully palpated, in order to determine if there is any disproportion between the size of the child and the carrier. Malpositions can often be discovered and corrected at this time. The physician can make sure that his patient is prepared for labor, and he can give his final instructions.

This outline of prenatal care can be followed by any physician. There is no elaborate equipment required. If we would all follow this or some similar plan, there would be fewer obstetrical disasters, and the world would not contain so many semi-invalid women.

THE TREATMENT OF THE TOXEMIA OF PREGNANCY*

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A sifting of the literature of recent years, especially of the last five, impresses one with the wide variation in the methods of treatment offered for pregnancy toxicoses. It would seem, however, judging from results, that the medical treatment of toxemiae has come to stay. The present paper attempts to point out the most rational methods presented today, and will be limited to the treatment of Hyperemesis Gravidarum Pre-eclampsia and Eclampsia.

VOMITING OF PREGNANCY

It is unfortunate that the socalled "morning sickness" is accepted by most patients as a petty discomfort of pregnancy, and minimized by many physicians, because the early treatment of the mild case will prevent progress toward the more severe type. On the other hand, the early ambulant case is often much harder to deal with, successfully, due to factors that are not easily removed from the home life of the patient, viz; house-work, cooking, frequent inability to take needed rest, etc. Nevertheless, the ordinary case of "morning sickness" should be taken seriously, and given the attention it deserves, and that as early as possible.

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As a basis for treatment, cases may be broadly divided into mild and severe, or the ambulant and those requiring confinement to bed. Needless to say, one should be sure in any case, before beginning treatment, that the nausea and vomiting are due to pregnancy and not to some gastro-intestinal or other disease.

THE MILD TYPE

When it is possible economically, the patient should be relieved from household and marital duties, at least temporarily, until she begins to receive some benefit, and encouragement thereby, from the treatment. The major considerations to be outlined are the diet, elimination, and rest at the usual period of nausea. Not much reliance is to be placed on drugs, as there are so very few, out of the hundreds recommended individually and collectively, that achieve the results desired. Luminal-sodium, gr. ¾ iss, (0.05-0.09), once or twice daily before the expected period of nausea, very often gives relief, supposedly by its direct action on the vomiting centre. The accompanying drowsiness can usually be offset by black coffee, which is usually well received and retained by the nauseated patient. Dilute hydrochloric acid, in 10-15 drop (0.6-0.9) doses before meals, in some such vehicle as essence of pepsin, very frequently gives relief. Corpus luteum extract, in spite of some authoritative pronouncements, seems to have more than psychic value, but if used, should be pushed. Milk of magnesia is sometimes acceptable for temporary relief. In my small experience, these four drugs were the only ones that have given any satisfaction worth mentioning.

The diet is another matter and the best weapon in the hands of the physician, who has to do with these annoying but important mild cases. Carbohydrates should predominate, and be given as solids or semisolids as much as possible. Breads crackers, baked pastries, potatoes, cereals, jelly candy, fruits, fruit juices with plenty of sugar, puddings, custards, etc., should be served frequently and in small quantities. Solid or semisolid servings will be retained better than liquids and should make up the major portion of the numerous small meals. Special effort should be made to make the food as attractive and as appetizing as possible, which excludes the average husband from the role of cook. Fluids should be pushed, but outside of the usual period of nausea, ordinarily after midday. Lemonade, orangeade and other fruit juices, ginger-ale, the lowly soda-pop, beer, etc., are usually available and most of them are readily accepted and retained by the patient.

Elimination should be accomplished by the use of salines, such as milk of magnesia in ounce doses or an ice-cold bottle of magnesium citrate, followed in an hour or so by as much water as the patient can handle. Rest in bed at the usual period of nausea is essential.

The treatment of the milder type of vomiting of pregnancy requires considerable patience on the part of the physician, because he must listen to the many and unvaried plaints daily, and persistence, because oftentimes he must stick to his line of treatment in the face of apparent lack of results. He must also insist that the patient refrain from discussing her condition with relatives and friends, and especially forbid the trial of the countless remedies that will be offered her.

THE MORE SEVERE TYPE OR HYPEREMESIS GRAVIDARUM

If, in spite of, or because of lack of treatment, the milder type becomes progressive, then isolation in the hospital or under the care of a trained nurse at home is required. The physician, who expects to have his orders carried out by the husband or relatives, and to succeed thereby, is almost invariably doomed to failure from the beginning.

The regime of Dieckmann and Crossen is, in my opinion, rational, and is quoted as follows:

1st Phase—
1. Nothing by mouth for 48 hours.
2. Daily enema.
3. Luminal-sodium gm. 0.12 (gr. iss) every six hours by hypo.
4. Normal saline (or better Ringer's solution) 1,000 cc. twice daily subcutaneously.
5. Intravenous glucose 10%, 1,000 cc. t. i. d., or 1500 cc. twice daily.
6. Sodium bromide gm. 5-6 (gr. 45-90) in starch water proctoclysis, once or twice daily, until the luminal is effective.

2d Phase—
1. Andrew's or other nasal tube to stomach for 48 hours or more.
2. Karo syrup, 10% with Dryco 2-5%, or skimmed milk 50cc every hour, increasing up to tolerance, (usually 300cc.)
Decrease quantity of Karo if glycosuria or diarrhea ensue.
Skimmed lactic acid milk or buttermilk may be used.
3. Luminal-sodium through tube instead of by hypo.

3d Phase—
1. Removal of tube.
2. Dry diet, from 6 A. M. to 8 P. M., with midnight and early morning feedings.
Cereals, toast, crackers, potatoes, lean meats, etc.
Fat content should be low.

They emphasize the following points:

Initial fast to rest stomach.

Sedatives, because patients are nervous, have lost sleep, and if asleep, do not vomit.

Saturation of body with water, glucose and salts (5,000-6,000 cc. in 24 hours).

Rules for use of glucose solution:

1. Any good grade of glucose can be used if C. P., (need not be anhydrous).
2. Freshly distilled water.
3. Proper sterilization and maintenance of sterility. (Autoclave, thirty minutes at 65 pounds—caramelization is no contraindication—no need for buffering).
4. Chemically clean infusion apparatus, sterilized preferably in autoclave, and NOT BOILED IN STERILIZER WHERE PUS BASINS, etc., have been boiled.
5. Proper observance of temperature during administration—below 98.6 degrees F. (37 degrees C.) or above 113 degrees F. (45 degrees C.), will almost invariably result in reaction.
6. A calculated rate of injection—
    100 gm. of glucose in 60-90 minutes or
    200 gm. of glucose in 2-3 hours.
    Can be repeated every four to six hours without glycosuria.

The combination of glucose solution given intravenously and feeding through the nasal tube will undoubtedly give as good results as can be obtained. Under some circumstances, it will be found difficult to give the glucose solution intravenously and nearly as good results may be obtained by the use of the nasal tube alone, and administration of fluid per rectum. Titus, who has been designated as the pioneer in the use of glucose in vomiting of pregnancy that the instillation of fluid is the "sine qua non" in Hyperemesis. He also believes that the use of insulin in unnecessary, and Dieckmann and Crossen concur in this statement, as also do Harding and Van Wyck. Another measure recommended by Polak is the use of blood transfusions (300 cc. of human blood by the direct method, plus 500 cc. of normal salt solution), when treatment similar to that outlined above has failed. He states that he has not done a therapeutic abortion for nearly five years, following the use of glucose (with or without insulin), and blood transfusions.

Medical consultation always desirable and beneficial.

PRE-ECLAMPSIA AND ECLAMPSIA

The most important part of the treatment of the convulsive toxemiae will have been covered in another paper, namely that on Prenatal Care. A fulminating toxemia in the latter half of pregnancy is almost inexcusable in this so-called enlightened age. If eclampsia occurs during pregnancy, labor or puerperium, somebody is to blame. Either the patient has failed to take advantage of the prenatal care that is at hand in all but a few sparsely settled sections of our country, or the physician has failed to give the expectant mother the benefit of the knowledge that is certainly his. If the physician fails in his duty, his is the greater fault. It is true that, even in our own state, terrain, distance and weather often militate against a meeting of doctor and patient, but the greatest obstacle is mental inertia, and that can only be removed by education. Much has been done in the past few years, but more needs to be done. Eclampsia is preventable, and its prevention must have been one of the things DeLee had in mind, when he wrote, "The fundamental reason for the high mortality in childbirth is the dis-esteem in which it is held by the medical and nursing professions, and by the public and legislators. Until the pathologic dignity of the function of child-bearing is recognized and the art of obstetrics is placed on a plane equally as high as that of surgery and medicine, there will be no great decrease in the mortality and morbidity of our childbearing women and their babies."

PRE-ECLAMPSIA

If one may judge by the literature, the treatment of the toxemiae of the latter half of pregnancy is now preponderantly medical and justly so, if results are what count.

Before classifying a patient as a pre-eclamptic, one must rule out chronic nephritis and the low reserve kidney. Except for the urgency of pre-eclampsia, the treatment is much the same, rest in bed, a bland, salt-poor diet, low in protein and high in carbohydrates, forced fluids, a record of daily fluid intake and output, and frequent check-up on the patient's condition. If convulsions are imminent or actually occur, then the treatment is that of eclampsia.

ECLAMPSIA

The following treatment for eclampsia is, in the main, that recently outlined by Titus, Dodds and Willets, but somewhat amplified herein.

1. (a) When a patient is seen in the convulsive state, she should be put in a darkened, quiet room and disturbed as little as possible but should be watched constantly.

(b) She should be turned one side or the other, with the foot of the bed elevated to allow mucus to drain from the mouth. Her position should be changed occasionally to ward off pulmonary edema, as far as possible.

(c) Protect the tongue by a mouth gag (covered clothes-pin, or better, a screw mouth-gag), and above all, guard the patient against throwing herself out of bed during a convulsion.

(d) Empty bladder by catheter frequently to prevent overdistention, to record urinary output and to discover suppression, if any.

(e) Keep patient warm and allow water freely, when she can swallow.

2. (a) Magnesium sulphate, 20 cc of a 10% solution intravenously once or twice daily, according to the frequency and severity of the convulsions (it has been given as high as eight times in 24 hours with safety). This drug reduces cerebral edema, lessens thereby intracranial tension, lowers the B. P., relaxes peripheral blood vessels, promotes diuresis and has a general sedative action.. No case of respiratory failure to my knowledge, has been reported to date following the intravenous use of magnesium sulphate, as often occurs after its use intra-spinally, but a 10 cc ampoule of 25% calcium chloride should be at hand in case of such an emergency. If the magnesium sulphate is not available—

(b) Morphine by hypo gr. ss immediately—may repeat gr. 1/4 (0.016) every 2 hours until the respirations are down to 8-10 per minute, if the B. P. remains high or convulsions continue.

(c) If morphine is used, give in addition chloral hydrate or sodium bromide, gr. xxx-xl (2-4 gm) per rectum t. i. d.

3. Glucose solution (25%) 300 cc. intravenously every four or five hours, continuing up to three or four times in the 24 hours following the cessation of convulsions—a rate of not more than 1 gm. per minute (4 cc of solution)—temperature of the solution 100-110° F. (38-43° C.).

4. Deliver for absolute obstetrical indications only. If labor intervenes, disregard until the cervix is fully effaced and dilated, or easily dilatable, with the head well engaged, then apply forceps under light ether or gas anesthesia. Caesarean section should be done only for obstetrical indications, because of the great possibility of shock in toxemics (sometimes there is a drop of 100 mm. Hg., after delivery), and their lessened ability to stand infection. In this connection, Welz cites 26 abdominal sections in Detroit for eclampsia with a material death rate of 42.7% and a fetal death rate of 19%, while King in New Orleans found a maternal mortality of 41.5% under the same conditions.

As a justification for stressing the conservative method in treating eclampsia, I may quote Williams, who states that he reduced his maternal mortality nearly 50% when he abandoned the radical treatment, Davis and Harrar give a reduction from 36% to 23% (30 cases), and in the fetal death rate from 55% to 34%. Welz treated 30 cases conservatively with no maternal deaths and a fetal death rate of 23%. Stroganoff's maternal mortality of 2.4% has not been attained by any other obstetrician, whether due to failure to follow his methods minutely or because the Russian woman suffers from a less malignant type of eclampsia.

To reiterate, eclampsia is preventable, but only by prenatal care. Education is necessary for both doctor and patient in order to attain co-operation, and thereby prevention of this dread disease. If, through lack of adequate preventive treatment or supervision, or rarely, in spite of it, the expectant mother becomes a victim to this convulsive toxemia, then, I believe that the best chance of recovery of herself and babe lies in a conservative treatment as outlined. Finally, I have omitted previous mention of post-partum eclampsia, not because it is unimportant or rare, but to save time and space, since the principles of treatment are the same, though they should probably be applied more actively.

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MANAGEMENT OF THE COMMONER FORMS OF DYSTOCIA*

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In preparing this paper, we have not included pre-labor care or pre-mature labors in deformed pelvis, for the reason that we are only asked to cover the management of labor; consequently we have taken up our cases when labor has begun. The management of labor is a mechanical problem.

Large foetus with good average pelvis and good position is very common. We first of all try to give the mother plenty of rest, let labor progress steadily, but not with too much worry to the mother. This we try to control with morphine and magnesium sulphate, or scopolamine; morphine given in 1-8 or 1-6 grains and scopolamine accordingly to keep the mother fairly comfortable. This allows the foetus to mould as best it can and also accomplishes some dilatation of cervix during this time.

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Then when these things are accomplished, we encourage the mother to help some with her strength, watching not to let her get too tired, for before this happens we put on forceps and help deliver. We like to put on forceps, with the use of nitrous oxid, because with the forceps in position, you can allow the mother to come from anesthesia to analgesia, this giving more help in delivering.

In case of the small deformed pelvis and the over-sized child, we must judge between our ratio of passenger to outlet if we are of the opinion the foetus will not pass, caesarean section is advised. Many times the family will not consent and you have to do the next best, deliver as best you can with a dead baby, craniotomy, but with a live baby you have to choose between using forced forcep and a dead baby, with more injury to the mother than a craniotomy would have been.

The next common dystocia in labor is due to the passenger and that is position. Occipito-posterior has been our most frequent. As soon as we make our diagnosis, we watch for dilatation along with the mother's condition. With dilatation accomplished we get ready for a forcep or version. With patient under nitrous oxid and with one hand in uterus, we try to make an occipito-anterior out of our position, if this can be accomplished, we have the nitrous oxid cut down and usually we have a uterine contraction, which engages the head and we let our labor progress of its own accord, if the radio of the child and pelvis is in favor of an easy birth. I wish to say here that the only time I feel sure of my measurements of head and pelvis, is when I have one hand in the uterus.

Some men become experts with external measurements, but to me this is the only measurement that I would actually decide a delivery on that means so much to both child and mother.

If our ratio between passenger and passage way is a little against an easy delivery, we usually do a forceps delivery at this time, under the nitrous oxid anesthesia. Should the ratio be more questionable, we change to deep ether anesthesia and do version.

Face has been our next frequent trouble. This we manage as an occipito-posterior, by giving an anesthetic and correcting our position. Then, as in occipito-posterior, we choose our delivery according.

Another dystocia not so common as the ones mentioned is arm or shoulder presenting here. We give a deep anesthetic at once and do version, for the reason that you usually have to do part of a version, at least to correct your position.

Tranverse arrest comes usually with deformed pelvis, flat or a prominent fifth lumbar slipped forward.

Here again we get dilatation either by nature or bi-manual and again putting hand in side of uterus judge our best course with Keilland forceps.

The flat pelvis has given more or less trouble. Here again we wait for dilatation, if mother's condition is good. Then, to make sure as to our decision, we give an anesthetic and, according to our findings, decide as to probability of delivery, by normal forces, forceps or caesarean section. We make a vaginal examination first if we suspect trouble. If we think it is possible to do forcepts delivery, we go into vagina with hand and possibly into uterus, before making our last and definite decision. Then inform patient and family and with their consent, do forceps delivery.

However, after making vaginal examination, if we feel that the deformity is too great to overcome with forceps, we advise caesarean section.

I think that a vaginal examination under good clean methods is not any great contra-indication for the caesarean section.

Rigid cervix has given us trouble and prolonged first stage of labor a great deal. We have used adrenalin ten or fifteen minims, subcutaneously for this with very good results. Usually in twenty to forty minutes, we find the cervix has thinned out and goes on dilating, as a normal cervix should.

A new use for the "zipper" arrangement that has become so popular on tobacco pouches, overshoes and traveling bags, is suggested in the news that a woman on Long Island has just returned home from her fourth Caesarian operation. The four operations have been performed during the last six years and the four children are living. The surgeons should seriously consider the application of "hookless fasteners" to save time and trouble.—Exchange.

HER WILL

Medical Man: "I'm glad your husband has given up smoking. It takes a strong will to do that."

Patient's Wife: "I have a strong will, doctor."

INDICATIONS AND LIMITATIONS OF CAESARIAN SECTION

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The indications for performing Caesarian section in early history was doubtless the attempt to spare the unborn child of a dying mother.

Today we have found many more indications, and we will simply enumerate them as found in the teachings of the leading obstetricians of this country. There are twenty-one listed, but in this short space of time we cannot consider them all in detail. In general these indications may be divided into two large groups.

1. Absolute—five in number.
2. Relative—sixteen in number.

We may define an "indication" as a reason for interference in the course of a given case.

The absolute indications may be stated as follows:

1. A contracted pelvis, where the conjugate vera diameter is less than 7 cm.
2. Cancer of the cervix or malignancy of the bladder and rectum with obstruction to the pelvis.
3. Obstruction of the pelvic canal by a fibroid tumor, ovarian cyst, or tumor of the sacrum.
4. A gigantic child whose head will not engage into the pelvic inlet. (Hydrocephalous).
5. In a dying woman, when the child may be saved.

The relative indications are 16 in number:

1. Central placenta praevia.
2. Eclampsia or pre-eclamptic stage.
3. Endocarditis, serious cardiac disease, advanced pulmonary tuberculosis.
4. Undilated soft parts after extensive plastic operation.
5. Prolapse of the cord in old primiparae with the membranes ruptured and the cervix not fully dilated.
6. Dystocia from previous operations, as ventral fixation.
7. Complicating tumors incarcerated in the pelvis.
8. Ovarian cysts.
9. Abruptio or ablatio placenta.
10. Rupture of the uterus. (Schultz reports 323 cases of rupture of the uterus; with inactive treatment-mortality of 78.8%; with irrigation and drainage, mortality of 64%; the operative treatment, mortality of 55.3%).
11. Moderately contracted pelvis where previous labors had ended disastrously.
12. Arrest of the head in the upper third of the birth canal.
13. Impacted shoulder with or without prolapse of the arm when child is alive, and in good condition. (Foetal mortality is 50% even after section).
14. Face or brow with chin posterior and the child living.
15. Double uterus.
16. Habitual death of the fetus a few weeks before the end of pregnancy.

Mosher establishes a general rule that Caesarian section is always the choice for a live child and craniotomy for a dead one, if these come into competition. The exception is met when a case of extreme pelvic deformity (that is, a true conjugate diameter of less than 6 cm.) is encountered. In this case the body of the foetus cannot be dragged through the pelvic outlet, regardless of skill or experience. It is an anatomical and physical impasse.

The funnel pelvis which has a bi-ischial diameter of less than 7 cm is usually a barrier to normal delivery at the outlet, even if the inlet is capacious.

A Baudelocque of less than 17 cm and a true conjugate of 6-7.5 cm or a tumor blocking the outlet is a positive indication for Caesarian.

Lantern slides of these other positive or absolute indications will suffice to convince anyone that abdominal section is necessary for delivery of a live child.

When we consider the relative indications for caesarian section, we can argue for hours. We will, therefore, simply consider some of the most common obstetrical problems where caesarian section suffers some of its most glaring abuse.

RELATIVE MISFITS

Here there is wide field for discussion. Polak calls these cases misfits, and here the fault may be the pelvis, the child, or the soft parts. Borderline conditions should always be given the test of labor for according to Polak, 81% of these cases deliver spontaneously, except in old primiparae. Burgess, at the Montreal Maternity, writes in this same vein. In 1935 cases of contracted pelvis, 75.5% delivered spontaneously; and 24.5 required operative procedure. Where the conjugate vera was 10.5 cm or over, all cases delivered themselves spontaneously, while if between 8.5-7.5 cm then one case in three demanded surgical interferences.

In these instances of contracted pelvis it should be remembered that the best pelvimeter is the foetal head and attempts to engage the head under an anesthetic with the examining fingers in the vagina, give valuable information as to the passage of the head through the pelvis in these borderline cases. This cannot be too forcibly emphasized at this time, when the indications for operative interference appear to rest largely on the fact that there is a contraction regardless of the degree. Careful pelvimetry prior to the onset of labor, and section if necessary at the elective moment is the wisest course in such cases. The decision should be made before labor has progressed too long as it has been shown that the mortality jumps to appalling heights in women who have been in labor over 12 hours. It has long been recognized that the risk of caesarean section rises rapidly the longer the patient has been in labor, and the longer the membranes have been ruptured .

PLACENTA PRAEVIA AND ECLAMPSIA

In my mind abdominal section should be reserved for the exceptional case of placenta praevia rather than the routine treatment of election. In view of the fact that foetal mortality will be high in any event owing to prematurity and the complications incident to low placental implantation—it is wiser to perform a version and check the hemorrhage with a foetal leg or use the Vorhees bag. Slides will illustrate this treatment and save time.

It is in eclampsia, indeed, that caesarean section suffers its most glaring abuse. As an indication in eclampsia, it was the consensus of opinion at the British Congress of Obstetrics and Gynecology in 1922, that only a case with no labor, a long hard cervix, no progress in 6 hours of conservative treatment, should be sectioned. Considerable doubt has arisen in the last few years as to the curative effect of rapid delivery in eclampsia as contrasted with conservative methods. Kellogg of Boston states that cutting operations should be avoided whenever possible in toxic patients, because there is a higher percentage of sepsis in these patients than in normal pregnancies. In a series of 400 cases of toxemia he showed that by similar methods of delivery a toxemic patient, with or without convusions, is three times as likely to be septic as a normal case, if an abdominal section is performed.

Stroganoff brings down to date his 25 years of experience treating eclampsia by the prophylactic method by free use of morphine—venesection, and chloral hydrate in 30 grain doses, administered one hour after entrance to the hospital and 7-13-21 hours later. The mortality of the mothers under this regime was 9.8% and the mortality of the children 12.9%.

The Rotunda method of treating eclampsia is very similar to the Stroganoff method. McPherson in the New York Lying In Hospital reported 250 cases treated by abdominal section in 1909 with a maternal mortality of 30.8%. One hundred and four cases were treated by the conservative Rotunda method and the mortality was 16.3%. Excluding 7 mothers who were moribund when first seen in whom no treatment would have availed, this leaves a corrected mortality of 9.6%. Certainly a startling difference from the mortality from Caesarean Section.

The risk of Caesarean section is in direct ratio to four factors:

1. The length of time the membranes have been ruptured.
2. The length of time the patient has been in labor.
3. The number and technic of the vaginal examinations made.
4. The previous attemps at vaginal delivery by forceps.

MORTALITY OF CAESAREAN SECTION

In women who had been in labor over twelve hours, the mortality from Caesarean section ranged between 6-14%. These are the figures published by Polak in a series of 2200 Caesarean operations performed by the best obstetricians in the United States.

The mortality of Caesarean section then is higher than any other abdominal operation, except the operation for carcinoma of the stomach, which is about 10%. Yet it is looked upon as a universal panacea for all obstetric ills, regardless of the condition of the patient, her measurements, her general health, or the history of her case. This operation, because of failure properly and intelligently to interpret indications, carries with it a greater morbidity and mortality than any other abdominal operation done for any pelvic condition. When the additional danger and possible mortality resulting from rupture of the uterine scar in future pregnancies is included; the mortality rate jumps still higher. The frequency for rupture is said to be anywhere from 1.5% to 18%. In Holland's series of 1103 Caesareans performed by English operators, there was rupture of the scar in 4%.

FREQUENCY OF CAESAREAN

Statistics showing the frequency of the most important obstetrical operations are not available for the U. S. In Massachusetts, however, in 1922, Caesarian section was performed 1,161 times in 90,904 births or 13 Caesarians to every 1000 births. One hundred cases terminated fatally, making a mortality of 8.8%. Indications for the operation were as follows: 37% of the Caesarians were performed because of obstruction due to malformation of the mother or child; 25% of the cases the operations were resorted to because of toxemia. Of the hundred deaths in such cases that formed the subject of a special study, 30% were caused by septicemia.

As Dr. Mosher has pointed out from a letter received from Dr. Rudolph Holmes of Chicago, dated April 8, 1926, some interesting figures bearing on the incidence of Caesarian section were gleaned by Dr. Tottenham, a young Irish obstetrician, who, in 1925, spent a number of months among American maternity hospitals. The information was given by the officials of the hospitals, to Dr. Tottenham personally.

The following figures were obtained:

Hospital	City	No. of Deliveries	No. of Caesarians	Incidence
Jefferson Hospital	Philadelphia	362 births	55	1 to 6
Boston Lying In	Boston	1,123 births	92	1 to 12
Bellevue Hospital	New York	4,286 births	44	1 to 97
New York Lying In	New York	3,511 births	5	1 to 585
Johns Hopkins Hosp.	Baltimore	875 births		1 to 125
Swedish Hospital	Minneapolis	1,667 births	4	1 to 201
Burnside Hospital	Toronto	8 yr. period 6,982 births	8	1 to 861
Uni. of Nebraska	Omaha	11 yr. period 2 510 births	44	1 - 57

Probably the most interesting deduction from these figures is the difference in the amount of "obstetrical conscience" of the various operators in these hospitals.

There is certainly a remarkable contrast in the selection of cases for Caesarian section, showing an incidence all the way from 1 to 6 in Jefferson, 1 to 12 in Boston Lying In, to 1 in 631 in Minneapolis General, and 1 in 861 in Toronto. Surely the material reaching the Maternity Hospital in the various sections of the country can hardly show such wide discrepancy in its anatomical or pathological indications.

These remarks are necessary to impress on every one the seriousness of performing Caesarian sections, unless there are present the accepted indications for doing the same.

INDICATIONS FOR LOW CERVICAL CAESARIAN SECTION

A large majority of patients needing Caesarian section are those who have been in labor for some time, in whom repeated examinations, even ineffectual attempts at delivery by forceps have been made. The membranes have sometimes ruptured days before. It is in these cases that the classical Caesarian section is attended by too much danger. Low cervical Caesarian section is then best for the following classes of patients:

1. A patient in labor for a considerable time, with an impossible disproportion between the head and pelvic inlet or outlet, membranes are probably ruptured with considerable dilatation of the cervix.
2. A patient who has had many previous examinations, no matter how carefully made.
3. A patient in whom ineffectual attempts at delivery had been performed.
4. Patients on the borderline, in whom a test of labor is carried out before deciding that Caesarian section is necessary. The low cervical Caesarian section has a very distinct and valuable niche in obstetrical practice. In the potentially infected patient for which it is indicated, it avoids an entirely unnecessary and unjustifiable risk of peritonitis, which would attend the classical operation, and secures the delivery of a living child with fewer post-operative complications and a better end result than any other form of delivery possible under the circumstances.

In other words, when a previous attempt has been made to deliver by the pelvic route, the membranes being ruptured, when forceps, version or craniotomy have been attempted, or even when repeated vaginal examinations have contaminated the field and infection is to be anticipated, the Saenger conservative classical operation is not indicated, because of the enormous mortality.

Figures from the U. S. Bureau of Census to Dr. De Lee and Dr. Geo. Clarke Mosher; indicate that the number of deaths following Caesarean section in the death registration area in 1920 was 212; in 1921, 247; in 1922, 266; 1923, 285; 1924, 304.

The mortality of Caesarian section gathered from 16 different hospital centers in the U. S. and foreign countries is 6.1%, and yet there exists in the minds of the profession today, the idea that Caesarian section is an absolutely safe and simple operation, which can always be depended upon to give the utmost satisfactory result to both mother and child.

As Dr. Mosher remarks "No apology is made for the discussion of this subject, since the abuses which have crept into its performance have become such a glaring matter for criticism. The whole question is again one of education. If we can convince ourselves of the proper indication for Caesarean section, and that the violation of the recognized limitation will surely be punished, we shall become better obstetricians. The patients will be saved the risk which they are forced to take, with results which many times outrage the obstetrical conscience."

The study of the case, and the determination that this or that remedy, or course of procedure is required, we call "placing the indication." It is here that the judgment of the accoucheur comes to the test, and De Lee affirms that there are no situations in all medicine and surgery that require broader knowledge, finer discernment, more logical reasoning, and more courageous purpose for their control, than do the problems of obstetrics.

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POST PARTUM CARE WITH SPECIAL REFERENCE TO INFECTIONS*

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It is generally considered that the puerperium begins with the completion of the third stage of labor, when, in reality, the puerperal state and consequently postpartum care begins as soon as the ovum is delivered, because at this time commences the gradual return of the genitalia to the non-pregnant state; the expulsion of the afterbirth being incidental to that end. The lying-in period is referred to as the time the woman is in bed or confined to her room after labor; the puerperium, however, continues from six to eight weeks, or until such a time as the uterus has returned to what will be its normal size.

I think all authorities agree that infection is the greatest single factor causing invalidism and death during the puerperium. Bunkley$^{(1)}$ says that "in the United States 20,000 women each year lose their lives as a result of childbirth, and that from six to eight thousand of these deaths are due to puerperal sepsis, the greater part of which should be preventable."

I shall confine my remarks to the lying-in period and mostly from the standpoint of prophylaxis; briefly discussing the care of the patient as regards attendants, environment, diet, attention to the bladder and bowels, exercise, care of the breasts, hemorrhage and the general care of puerperal infection.

Postpartum care should be conducted with the main object in view of returning the mother to as near normal as possible. In large maternity wards where trained assistants are in attendance it is possible and probably necessary to outline a definite routine which will give uniformly good results, but in some of the smaller hospitals and particularly in the home where conditions are constantly different, the accoucheur must adjust himself to his surroundings and to the intelligence of those in attendance.

The first consideration should be those in charge of the case. The attending physician cannot care for virulent infectious cases such as the streptococcus group and safely attend a puerperal woman. Even with our advanced knowledge of bacteria and their ways, they still remain elusive and evade us at times. If the necessity arises, however, the utmost precautions must be taken not to carry infection to the patient and this applies the same to the nurse or other attendants whether it hospital or home. Any person with a respiratory, skin or other infection should not come in contact with a puerperal woman and infections on any part of the patient's body should be treated and the necessary instructions given as to their care.

The patient should be given the most pleasant room available, well ventilated and with plenty of sunshine. Every effort should be made to keep her quiet and company should be restricted for the first few days at least.

A full diet is permissible after forty-eight hours except in case of prolonged and difficult labor or other complications when it is adjusted according to the circumstances. Fluids should be pushed in order to replenish the blood stream and keep the excretory organs active.

Attention to the bladder is imperative on account of possible bladder and kidney complications. Generally the bladder fills rapidly after delivery of the child due to decreased intra-abdominal pressure and injury to the bladder and urethra along with the recumbent position tend to cause retention and prolonged retention may result in an ascending infection. The patient should be encouraged to empty the bladder in eight hours, aided, if necessary, by hot irrigations or applications to the bladder and vulvar regions. A simple warm enema is sometimes successful and a sitting posture is permissible if labor has not been too difficult and the lacerations are minor. The catheter is a last resort and is to be used only under strict aseptic conditions. It is my custom to give Acid Hexameth Comp., grains V four times daily whenever the catheter has been used. The patient should void at least every eight hours thereafter.

Most women in the latter months of pregnancy are constipated and unless they have had special prenatal care their bowels are generally loaded. Two ounces of castor oil on the third morning postpartum will generally show results sufficient to warrant its use. After one complete evacuation of the bowels a simple enema or laxative is all that is required. After each bowel movement or urination the vulvar region should be irrigated with a 1-2000 bichloride or strong lysol solution and the pads changed.

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The patient is allowed the freedom of the bed and is encouraged to move from side to side and to lie on her abdomen for two or three short periods each day or even assume the knee-chest position and she is allowed to sit up in bed after the third day, being well supported with pillows. This seems to be sufficient to accelerate the pelvic circulation and minimize the dangers of thrombosis and embolism. I cannot see the advantage of starting training with regular muscular exercises with a patient who was not accustomed to them before confinement, in fact, it seems to me that with the possibility of infection always present that unusual exercises would be dangerous. She should stay in bed until the tenth day and in no case be permitted to get up until the uterus is retracted below the symphysis and the lochia has become light and serous in character.

Since practically all infections of the breast can be traced to fissured or eroded nipples the greatest care should be exercised in handling them. The attendant should be instructed to disinfect her own hands and to cleanse the nipples before and after nursing with sterile water or sterile boric acid solution. Nursing a dry breast is a fertile source of cracks and fissures and in such case the feedings should be held to a minimum with the application to the nipples of sterile olive or sweet oil after nursing. It is my custom if an erosion or crack appears to paint it with Comp. Tr. benzoin after each feeding and use a nipple shield if nursing is very painful. In case of engorgement or other necessity of relieving the breasts, they should be covered with hot, wet, sterile flannels and after the breasts are thoroughly warmed they can be gently massaged toward the nipple, allowing the milk to flow into the flannel. This method has invariably given sufficient relief and the breast pump is rarely needed. Should mastitis arise the babe is taken from the breast and a snug binder applied both for support and compression. Morphine, hypodermically, can be administered to control the pain and also aid in lessening the milk secretion. If an ice bag is applied early the condition will occasionally subside, but if not then hot stupes are used and the breast incised properly as soon as suppuration occurs.

Control of hemorrhage is very important because an anemic woman is a likely subject for infection on account of her lessened resistance: consequently blood loss in the third stage and later must be held to a minimum. After delivery of the child if any unusual bleeding is noted, I give one cc of pituitrin, intramuscularly, and try and maintain contraction of the uterus by grasping and massaging the fundus until the placenta is expelled. Immediately upon delivery of the afterbirth the patient is given one dram of ergot by mouth, to be repeated every 3 or 4 hours if there is any unusual oozing. This is sometimes augmented with pituitrin to maintain the uterus in a state of contraction in order to help drainage and inhibit retained clots from forming. Most postpartum hemorrhages are due, either, to birth trauma or to uterine atony, caused by retained pieces of placenta or blood clots. All injuries should be sutured and in case drugs and manipulations do not control the atonic hemorrhage, the uterus should be invaded. The gloved or bare hand is thoroughly disinfected and introduced into the uterus and any pieces of placenta or attached blood clots are removed, after which the uterus will generally contract and bleeding cease. I have used this method several times and have not seen any ill-effects result.

During the puerperium it is necessary to watch carefully for signs of infection; the pulse and temperature should be noted; the uterus palpated and the lochia observed. Many rises in temperature are found to be due to retained clots blocking the cervix or the bathing of the cervix in a pool of retained discharges and in this case Fowlers' position is a valuable aid. Polak(2) has very aptly stated that, "Postural drainage and a well retracted uterus offer the greatest barrier to infection, for with the sinuses sealed with firm thrombi, migration of the vaginal flora is but a harmless excursion".

I shall not attempt to discuss the various clinical types of puerperal infection and only speak of their care in a general way based on the same medical and surgical principles as applied to any infection. Every case of puerperal infection should be isolated and provided with her own nurse. Elimination and drainage should be facilitated by Fowler's position or raising the head of the bed; by the administration of ergot, forcing the water intake, and an occasional saline purgative. Her general health should be improved by providing plenty of sleep, relief from pain, nourishing food and plenty of fresh air. Non-interference is the best policy except in case of localized abscesses or severe hemorrhage. Drainage about the sutures can be increased and all abscesses must be drained. Hemorrhage is the only indication for invading the uterus even though there are pieces of retained membranes or placenta present.

Administration of bactericides, vaccines, and antitoxins will depend on the individual physician's judgment and experience. As yet I do not know of any particular preparation which has given uniformly good results, although where the offending organism can be isolated, I believe specific therapy would be rational.

In conclusion let me say that prevention of infection is the most important postpartum duty of the attending physician, and that its success depends for the most part on the detailed care and attention given to the patient.

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THE CARE OF THE NEW BORN BABE

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Irrespective of what I may have to say regarding the care of the newborn, I think it is highly significant that the committee who prepared this symposium saw fit to include a paper on this subject. Only recently has the newborn baby begun to receive its due amount of consideration. In my own intern days, not so far distant, the pediatric department had no contact with the obstetrical nursery, and as someone has said, the newborn baby received but little more attention than the placenta. Contrast this situation with the plan now in use in most large hospitals, where the baby is turned over to the pediatric department as soon as the cord is tied, and is treated as an individual, with a separate hospital record, and you will realize something of the changing viewpoint. Under the former conditions the mortality was high; at present the first two weeks still constitute the most dangerous period of life, but considerable progress has been made in solving the problems which contribute to this mortality. Even what knowledge has been gained so far is being too slowly disseminated, largely because of lack of contact between obstetrician and pediatrician. I am, therefore, especially grateful for this opportunity of presenting to those interested in obstetrics some of the more recent advances in the care of the newborn. I shall try to confine myself to a few of the more controversial questions, omitting any lengthy reference to the well known facts in this comparatively new and highly interesting field. Let me call your attention first to the prenatal period. This portion of the child's life is becoming more and more accessible to the obstetrician. Unfortunately we know very little of the influence of prenatal factors on the child, and what we do know is largely negative. In other words the fetus is a true parasite, and grows largely independently of the mother's health or state of nutrition. Proper nutrition of the mother acts largely through its later influence on lactation and ability to care for the child, rather than through direct action upon the fetus. This is evidenced by the failure to prevent rickets by giving the mother cod liver oil. However, in view of the drain upon the mother's calcium reserve, this procedure is advised, and clinically seems to have a beneficial result. In case the fat content is inadvisable, cod liver oil concentrate in tablet form which is now available can be used. Excessive starvation of the mother, in an attempt to limit the child's weight, not only fails in its purpose, but may seriously handicap the mother in undergoing labor and in establishing lactation. The only factor which definitely influences the weight of the child is length of gestation. This brings us to the question of early induction. Many obstetricians, having learned by experience that the only means of insuring a small baby is to induce early, have made that procedure almost a routine, to the great satisfaction of the mother, but the dispair of the man who is later called upon to care for the premature child. These babies, even if only slightly premature, are infinitely more difficult to raise than a full term child. The optimum weight is about seven and one-half pounds, and induction should not be performed until the child has reached approximately that weight except, of course, for obstetrical indications.

The immediate care of the newborn is fairly well standardized, but a few points still merit discussion. One of these is resuscitation. We know from the work of Haldane and his associates that respiration is initiated and maintained by the action of carbon dioxide on the respiratory center, yet we continue to resusciate newborns by the same methods which have been used since the dark ages. The normal newborn will breathe promptly if inverted for a moment; if he does not, asphyxia is present, and spankings, dipping in cold water, artificial respiration and rough manipulations are not the proper treatment for asphyxia. Every hospital, if not every obstetrician, should be equipped with a simple inhalator and a tank of carbon dioxide and oxygen. Gentle inflation of the lungs with the proper mixture of these gases (6-10% carbon dioxide in oxygen) will supply all the stimulation necessary or advisable. If this equipment is not at hand, mouth-to-mouth inhalation will accomplish the same end, or as Yendell Henderson suggests, the nearest fire department may be called. Pure oxygen, which is frequently used, is not affective, as the tissues are not able to manufacture enough carbon dioxide to stimulate the already depressed respiratory center.

Another common practice is vigorous cleansing of the mouth with the gauze-covered finger. This procedure is not necessary, and may lead to infection or serious injury. Many cases of so-called congenital stridor are probably due to such ill-advised attempts to clean out the mouth and pharynx.

The most important event during the first two weeks of the child's life is the institution of breast feeding. In the past breast feeding has been considered as a natural function which required no particular supervision. The doctor was consulted only when nursing was stopped and a formula was deemed necessary. This method resulted in about 50% bottle fed babies, as contrasted with 5% or less when breast feeding is properly supervised from the start. The principles involved are simple enough, but are still imperfectly understood by the bulk of the profession. These principles are: First, sufficient stimulation of the breast with complete emptying; second, hygiene of the mother, both physical and mental; third, and least important, diet of the mother. I suggest the following routine, merely as a basis for discussion:

1. First nursing at end of twenty-four hours after delivery. This gives the mother plenty of time to recover from labor, allows the baby to sleep for the first twenty-four hours, and permits us to start our schedule immediately.
2. Baby is put to breast every four hours after first nursing. Babies weighing less than seven pounds will do better on three hour schedule. Time does not permit me to enter into a discussion of four hour versus three hour feedings but my own practice is to use four hour feedings whenever possible, omitting the night feeding in most cases.
3. Baby is weighed before and after nursing, not with the idea of setting a certain quantity as a minimum or maximum, but merely as an additional guide in determining the baby's progress.
4. Water or food is given only on indications. These are unusual loss of weight, dehydration, or increased temperature. Unlimited amounts of water or sugar solutions decrease the appetite and interfere with normal vigorous nursing, which is the chief factor in successful lactation.
5. If proper gain does not follow, the first step is to give both breasts each feeding, being sure to empty one breast before giving the other. If this does not help, the three hour schedule may be tried, but is rarely successful in increasing the twenty-four hour supply.
6. Every mother is taught manual expression and directed to empty the breast after nursing. The milk so obtained is saved and fed to the baby at the next feeding if required, or given to another baby. The best method of stimulating the breast is vigorous nursing; next is manual expression, properly carried out. A good substitute for the latter is the electric pump invented by Dr. Abt. The glass hand pump is a vicious instrument, inefficient, unclean and dangerous. It should not be used.
7. If these methods fail, complimentary feedings are started. The food of choice is skimmed lactic milk, though any good formula may be used.

You will notice that no mention has been made of frequent nursings, increased fluids and forced feeding for the mother, massage of the breasts, or analysis of breast milk. All these measures, which have been widely used in the past, are opposed to the modern view of the physiology of lactation, and clinically are not effective. This routine, it must be remembered, is for the normal newborn and must be modified for abnormal babies.

There remains for discussion the diseases of the newborn. The limits of this paper will allow us to mention only a few of these. One of the most interesting is hemorrhagic disease This condition is suspected when bleeding, internal or external, occurs, and the diagnosis is made from a determination of the bleeding and clotting time. The normal limits vary with the technique, but if the method described by Rodda is used, the bleeding time is two to five minutes, and the clotting time five to nine. The treatment, of course, is whole blood, either subcutaneously or intravenously. Early treatment is so effective that many hospitals do routine tests on the third day, and if abnormality is found whole blood is given immediately before symptoms develop. Typing is not necessary and the father's blood is ordinarily used.

Intracranial hemorrhage, if not due to hemorrhagic disease, is traumatic. Spinal or cistern puncture is diagnostic, usually beneficial and occasionally curative. In severe cases, if the bleeding and clotting time is normal, operative removal of the clot may be considered, and the high surgical mortalities compensated for by the wretched outlook for these severe cerebral injury cases.

Cistern puncture is said by some to be easier than spinal, but I can hardly subscribe to that. It is also difficult to see how it can be more effective, except in case of spinal block, which is very unusual in this condition. If signs of pressure continue, puncture should be repeated as often as necessary.

Another subject which is sure to provoke discussion is enlargement of the thymus. We are rapidly coming to realize that our beliefs regarding the thymus have been erroneous and that the symptoms ascribed to it have probably been due to some other condition. The reasons for the false conception which we have had are a lack of knowledge of the normal growth of the thymus and the difficulty of interpreting chest x-rays in the newborn. Compression of the trachea from thymic enlargement may occasionally occur, but those who have most carefully investigated the subject are extremely doubtful, and the whole trend of pediatic opinion is in the opposite direction. The apparently beneficial effects of x-ray treatment are no criterion, as too many factors remain unaccounted for.

Fever in the new-born is usually ascribed to de-hydration. If the cases are more carefully investigated some other cause will often be found. Adair and Stewart have shown that many cases are due to high external temperatures and are most common in hot summer weather. High temperature in the new-born is an indication for fluids, but if the temperature does not fall rapidly some other cause should be sought.

Colic does not usually occur in the first two weeks, but the foundation is laid for it during that period, and it may well be considered here. Our present conception of colic is that it is a spasm of the small intestine, brought about because of the instability of the autonomic nervous system of the baby, and caused by a great variety of factors. If we keep this conception in mind we will be greatly aided in the treatment of this distressing condition. If the routine recommended above is successfully carried out, colic will usually not occur. If it does, the treatment consists in eliminating all irritating or exciting factors in the diet or environment. The first requirement is sufficient food, as most cases are due to underfeeding. Complementary feedings, preferably of some nonfermentable food, such as protein milk, may be necessary for a short period. The rare instances in which overfeeding is the cause can be easily handled by lengthening the feeding interval and decreasing the number of feedings. Too frequent changing of diapers, excitement and noise in the home, lights in the baby's sleeping room, tight abdominal binders, are a few of the contributory factors. I have seen cases where too rigid a schedule seemed to be the causal factor, with a modern mother determined to raise the baby by the book. In such cases a wise grandmother often saves the situation. Small doses of atropin or papaverin will often produce enough relaxation to break the vicious circle and relieve the colic. The one thing not to do, yet most often done, is to wean the baby. The reason this procedure is so often successful is that the baby at once gets sufficient food, the nervous tension in the mother is relieved, and the family is convinced that the baby will now be well. A similar result can be achieved by the measures mentioned without depriving the baby of breast milk.

It should not be necessary to mention such conditions as sepsis of the newborn, thrush, impetigo, gonorrheal infections, etc., as these would appear to be only problems of strict aseptic care and isolation of patients, yet they will occur in the best regulated nurseries.

Sepsis usually results from infection of or through the cord stump. Cutting the cord short, the use of dry dressings and complete letting alone until separation is complete will usually prevent trouble.

Thrush has always been considered as due to unclean bottles and nipples and improper cleansing of the mother's breasts. Faber has recently shown that ordinary dust in the nursery may carry the infection and that the mother's breasts are frequently infected with the same organism. He has also shown that gentian violet applied locally is a specific, while boric acid is very ineffective.

An epidemic of impetigo in a hospital nursery presents a problem of the highest order. The disease itself is serious, sometimes proving fatal, and the epidemic is difficult to check. The only successful method of handling such a situation is to close the nursery, isolate each baby with its own mother, who is probably also infected, and abandon the use of the common nursery until the last infected baby has left the hospital.

I have tried to assemble in as brief a form as possible a few of the modern ideas regarding the newborn period. With closer cooperation between the obstetrician and pediatrician much progress will be made and it is safe to predict that the mortality in this period will be lowered very materially. My closing plea is that the newborn baby be given equal consideration with the mother, so that it may survive the perils of the early weeks and make a proper start in life, with all the assistance that we, with our still imperfect knowledge of problems involved may find it possible to give.

DISCUSSION

LEONARD A. SWANSON, M. D., (Hastings): There is one little point I should like to emphasize. He has covered all these points thoroughly, especially for hospital care. Sometimes in my cases I find that you outline all the treatment you want them to follow, but it is also well to tell them not to do anything except what you have mentioned. I find sometimes after you have given careful instructions, you come back and the baby is not getting along all right. You say, "Have you done everything I told you?"

"Yes;" but you find they have tried everything everyone else suggested, too. It mixes things up. A new one came out last night. I had a case that had a practical nurse. She said, "Do you want me to dress this cord? Do you use raisin, or nutmeg and vaseline?"

She said she cut a raisin and took the seeds out and put it on the stump of the cord. I had never heard of that before. She said, "Sometimes they use nutmeg and vaseline." I have never tried that, either.

Sometimes a little extra caution will save difficulty.

HERMAN M. YAHR, M. D., (Omaha): There are a good many things overlooked in the new born babe. I fully agree with Dr. Hancock on his four-hour schedule. You will find babies get along better on a four-hour schedule, and it is easier on the mother. I do not think it makes much difference to the milk supply. With regard to the use of other food, I do not think it necessary very frequently. I think the scales should be the judge. If the baby does not lose too much weight, the addition of milk as a supplementary feeding is unnecessary. Later on it may be necessary to institute supplementary feeding. When it is added, be sure to have the mother give the bottle after nursing and never before. Sometimes the tendency is for the baby to prefer the bottle to the breast. Unless the mother is instructed plainly it is to be given after, and not before, nursing, the chances are the baby will take only the bottle before long.

I think most of the babies who have colic are overfed, although a good many babies we think have colic are actually undernourished and do not have enough to thrive on. Here again the scales must judge as to whether or not a child has colic due to some form of indigestion, or whether it cries because it is hungry. It can have vomiting with hunger just as well as when overfed.

I want to compliment Dr. Hancock on his paper.

SHERMAN J. JONES, M. D., (Hastings): I should like to make a suggestion. This meeting is about over, but next year there is another one. I would suggest every speaker before he gets up takes a good dose of thyroid, and maybe we can hear him.

C. R. SPICER, M. D., (Hastings): In the discussion of this paper, the Doctor has referred to the matter of hemorrhage, particularly cerebral hemorrhage in the newly born, which I think has not received all the attention it deserves, occurring more frequently than suspected, and many times the failure in recognizing it lessens the chance of saving a life. There is one thing in addition to this. Sometimes the withdrawing of blood may be a hindrance instead of a benefit.

I had a child brought here that had been born under difficult conditions. There was a large caput succedaneum and the child was having evidence of pressure. A spinal puncture was done and a certain amount of fluid withdrawn, but the evidence of pressure did not improve. Blood was withdrawn from the vesicles, and the condition got no better. When a larger amount of blood was withdrawn, the condition did not improve. As rapidly as blood was withdrawn, more extruded. We simply were ensanguining the child to no advantage, just as in the case of detached placenta. By letting the child alone, the pressure cleared up and the child has recovered. This was a year ago last January. He is now perfectly normal.

A word about colic. I think a good deal is unknown about it yet. In some cases positively it is due to lack of food. You all know many of the most aggravating cases are cases where the child is very much overfed.

W. H. TAYLOR, M. D., (Omaha): There is one point in cerebral hemorrhage I think is important. As you know, you sometimes get this condition in normal cases, and especially in prolonged normal cases, and in the operative case. The thing to do if you can, is to prevent the attack of the hemorrhage. In practically all new born, the clotting time I think is rather long. There is a simple little expedient I think will help in prolonging life, irrespective of whether you have symptoms of hemorrhage or not. It is to give the baby twenty cc. of the father's blood immediately after labor. We have been doing that for the past year. I am sure in these cases of difficult labor we have had fewer symptoms of cerebral hemorrhage.

O. H. HAHN, M. D., (Hastings): Some time ago I spent some time in New York and went over to see Dr. Davis. He showed us some of his work on infants. One of the things he brought out about colicky babies, especially those from six weeks and longer, in each case he made a diagnosis and removed the appendix. He showed every case of colic quit and the child got well.

When I came home, there was a case of a new born babe crying all the time. It started to cry soon after birth. I was timid about going in. I felt I ought to, but I didn't. The little one died. Autopsy showed it had a gangrenous appendix. It was 45 hours old.

E. C. PINCKNEY, M. D., (North Loup): In nearly every new born baby we have a little icterus neonatorum. I should like to ask what are the indications for a treatment of this trouble, and what treatment should we use?

DR. HANCOCK, (closing): In answer to the question about icterus neonatorum, as far as we know it has no significance whatever. It occurs in 25 per cent of normal babies and clears up without doing anything. It has been said you should push fluids. I see no reason for doing so. The only important point is to differentiate it from the other causes. One would be obliteration of the bile duct, and sepsis. When icterus appears, you should suspect something.

I heartily like the idea of giving whole blood to babies after difficult labor. I would say the obstetricians should use forceps oftener than they do. I know of one series of 325 labors where there has not been an operative injury, because the physician used prophylactic forceps frequently.

A DEFINITE CLASSIFICATION OF OBSTETRICAL DELIVERIES

LLOYD O. HOFFMAN, M. D.,
Omaha, Nebr.

This paper is prompted by an impression that we have received in the last few years. Fatalities either to mothers or babies are not due, as a rule, to improper technique nor inadequate training in methods of delivery but rather to the improper classification of cases with respect to the method employed. It is obviously impossible to deliver a live baby with forceps from a case which has all the qualifications of a caesarian. In a fatality in a case of this kind we can blame neither the ability of the operator nor the instruments but must bear in mind that an improper classification of the case as to method of delivery has been made.

During the past few years we have given our interns a brief classification of methods of delivery which we have hoped would benefit them in an every day practice. We should like to pass it on to the medical profession at large for their consideration only with the hope that it will lessen maternal and foetal mortality.

First, normal deliveries, mothers who can deliver themselves in a normal manner.

Second, mothers who can be delivered through the pelvis but require help by forceps or version.

Third, cases which cannot be delivered through the pelvis and require abdominal section, classical, low cervical and caesarian A Bas.

No particular discussion of the first class of cases will be given. It suffices to say that many women, if given the opportunity, would deliver themselves normally which are now classed as operative deliveries. Operative deliveries from below should not be undertaken unless the bladder and rectum are empty and the cervix is dilated or dilatable. Too often we see cases in which forceps have been applied through a cervix not fully dilated.

In the second class we will first discuss forceps. High forceps will not be discussed as they should have no place in modern obstetric practice. The mortality and morbidity in highly trained and skillful hands has been much higher than is warranted. Mid forceps should not be employed when there has been no advancement for several hours. We should first be sure of the position; the safest and most practical method being palpation of the foetal ear. Posterior positions should be suspected when dilitation ceases or there is no advancement and for no apparent cause. Posterior positions can be delivered. First, by manual rotation. Second by forceps rotation and third as posteriors.

For the general practitioner and obstetrician as well, manual rotation with pelvic application of forceps will give uniformly good results and unless we have some good reason it should comprise the initial effort. The Scanzoni maneuver has become obsolete since the advent of Kjelland's forceps. Kjelland's should be applied with a cephalic application so that after rotation you have both a cephalic and pelvic application. The advantage of Kjellands being in a single application and less liability of injuring the soft parts. Unless the head is small or extremely molded we should not attempt to deliver posteriors as such for obvious reasons. Low forceps can be employed as a time saver for both mother and physician but only when we are definitely assured of our asepsis and ability.

Version is the oldest operative procedure. It antedates the use of forceps more than 1000 years. The contribution of Dr. Potter of Buffalo has made version not only safe but a practical procedure. It has entirely supplanted the use of high forceps and will probably save the lives of more mothers and babies in our century than any other obstetrical contribution. While it is possible for the master of version to deliver live babies by version from borderline caesarians we would better leave that kind of an attempt to the expert.

As to the application of this classification to version our indications are numerous. We will consider a few which would always be applicable. Any case, of course, in which we formerly believed high forceps to be indicated. Multipara with a fair obstetrical history in which the head does not enter the pelvis. Primipara with no definite disproportion between the foetus and maternal pelvis in which the head does not come down. Cases which have had bag induction. Face presentation, in fact, most of the presentations which are not a vertex. Needless to say, the Potter method is the preferable one. For the physician who does obstetrics to be unacquainted with it would be comparable with the inability to use the microscope for the average diagnostic procedure.

The maternal mortality in caesarian is due principally to two causes, infection and shock. Obviously borderline cases in which there is any possibility of caesarian should never be examined vaginally. Artificial induction or operative procedure should never be attempted. Apprehensive neglect produces most of the cases which die in shock. It is certainly unfair to allow a patient to remain in labor 24 to 36 hours and then elect caesarian. Caesarians, which have been intelligently classified, show a maternal mortality of less than 4 per cent. One diagnostic point as a caesarian indication which can be recognized by both physicians and nurses and is always present should be emphasized. The distance from the umbilicus to the fundus is greater than the distance from the umbilicus to the pubis. This can be noted at a glance and when present should call for a careful checking of the pelvis and foetal measurements immediately. Classical caesarian should be employed only in clean cases in which the membranes are not ruptured and have not been examined vaginally It will probably remain the operation of choice because of the rapidity and precision with which it can be accomplished. Low cervical caesarian should be done on potential infections, ruptured membranes, or cases which have been examined vaginally. Caesarian A Bas is intended for only two types of cases; those which are frankly infected and have a live baby or infected cases with a dead baby that are absolute caesarians. No other types will be discussed as these three types fill all indications.

This classification may seem a bit diadactic and arbitrary, however, the obstetric practice of today is beset with two evils; meddlesome midwifery and careless acquiesence. The former is ambitious experimentally and the latter sleeps peacefully on until disaster has overtaken. It is not impossible that this classification will not be wholly embraced by the profession. If, however, it will increase interest in obstetrical deliveries it is enough.

THREE CURED CASES OF SUPPOSED CANCER OF THE STOMACH*

D. T. QUIGLEY, M. D., F. A. C. S.,
Omaha, Nebr.

When the sentence, "Cancer of the Stomach" is passed on a patient he is inclined to lose hope, his medical adviser is also inclined to assume a hopeless and indifferent attitude as far as the case is concerned and to consider the patient only a candidate for palliative treatment.

There are many cases that go down to death with this sentence passed on them, suffering from benign conditions which might have been cured by the making of a correct diagnosis and the instituting of proper therapeutic measures. The exceedingly high mortality from cancer of the stomach may be due in some part to this tendency on the part of laymen and doctors alike to accept a diagnosis of "Stomach Cancer" once it is made and allowing a benign condition to masquerade as cancer to drag the patient down to an untimely death. It is not uncommon to find that syphillis of the stomach may imitate very closely stomach cancer. Throughout the rural districts where Wassermann tests are not commonly done and when syphilis is not commonly suspected and where post mortem examinations are not common many cases of stomach syphilis are undoubtedly considered cancer, and are reported as such in the death certificate. There are, however, many non-syphilitic conditions which may imitate stomach cancer and this report considers three such cases which were cured. In these cases a sufficient time element makes the freedom from cancer in each case certain.

Case 1. Operated on in 1921. A woman, aged 45, housewife on a farm in South Dakota. A long history of gastro-intestinal trouble. Frec Hcl absent. Retention, constipation, vomiting, pain almost continuous, made worse by food..

Patient has lost much weight and presents a very much emaciated appearance. X-ray shows a dilated stomach with obstruction at the pyloric end. Shadow interprcted by roentgenologist as typical of stomach cancer. She had visited several clinics and internists and in every case the diagnosis had been the same.

She was subjected to an exploratory operation and the obstruction was found to be due to adhesions presumably from an old ulcer. The main mass of adhesions was in the form of a heavy band which laid across the duodenum. This was cut across and the gut freed. The patient had an uneventful recovery. She was kept under observation by correspondence for four years. During this time she was much improved but never entirely well. During this time she had no symptoms suggestive of cancer. Her failure to get back to normal may be ascribed to the permanent dilatation of the stomach caused by the long period of partial obstruction, the reforming of adhesions, and the absence of hydrochloric acid, the latter probably due to the fact that the acid secreting glands were exhausted by a long period of over-stimulation during the active ulcer period.

Case 2. Operated on in 1922. A woman of 40 referred by Dr. Duncan of Casey, Iowa, suffering with "cancer of the stomach, liver and gallbladder". Dr. Casey thought it would be a good case in which to experiment with radium needles as a hard lump, the size of a golf ball, could be felt in the region of the gallbladder just below the ribs. She was jaundiced a yellowish green, was emaciated, in pain, and vomiting. She had "been the rounds" of doctors and clinics for over a year. Her doctor had referred her for possible pain relief by the use of radium. At operation the hard lump was made the point of attack. The hand slipped under the lump, brought it into the incision and it was found to be the appendix containing two concretions the size of peanuts. The organ was surrounded by adhesions. The adhesions were carefuly separated and the appendix removed. The patient made an uneventful recovery and in ten days was eating a full meal. She gained rapidly in weight and five years afterward was apparently well and free from any gastro-intestinal symptoms.

Case 3. Operated on in 1914. A man 22 years of age. History of being kicked in the abdomen by a mule 5 years before. Three weeks before coming to Omaha he had been operated on by an Omaha doctor in North Platte. The doctor had opened his abdomen, examined a large tumor mass which appeared in the incision, pronounced the disease cancer of the stomach and gave as his prognosis that the patient would not live more than three weeks. Three weeks passed and as the patient was still alive some hope was entertained that something might be done for him. X-ray pictures were made and these showed a large tumor mass in the epigastric region. A leading internist was called in consultation and his conclusion was that the patient was suffering from an aneurism of the abdominal aorta. When it was suggested that this might be determined by inserting a long thin needle and aspirating the consultant objected saying: "I would not cause the boy even that much unnecessary pain. Send him back and let him die at home". In the face of this adverse advice I determined to open his abdomen. When the belly was opened a large mass presented itself in the incision which seemed to be behind the stomach. Lifting the omentum and the colon, a large smooth mass was found in the pancreas. Inserting a needle it was found to contain straw colored fluid. The fluid was drained and the edges of the cyst wall were sewed to the skin. The patient made a satisfactory recovery and was seen occasionally over a period of ten years. He had no trouble after the operation except at times when the drainage became obstructed. Healing from the bottom may have taken place as the drainage gradually became less. He was employed as a laborer on the Union Pacific R. R., for several years after his operation.

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

We believe that every case diagnosed as stomach cancer deserves whatever benefit there may be derived from an exploratory operation and in no case should such a diagnosis be considered final until an exploratory operation has been done by a competent surgeon.

DISCUSSION

R. W. FOUTS, M. D., (Omaha): My interest in a subject of this sort was intrigued not a little when I read of the cure of three cases of cancer of the stomach. It is well taken to go the limit to prove or disprove the findings, more particularly with x-ray men. Since I happen to qualify in that particular, I was interested in that discussion, also. I believe it is possible in most cases—in the vast majority of them—somewhere between 95 and 100 per cent—to diagnose cancer of the stomach by x-ray, and certainly if it has advanced to the point of the case as described by the doctor.

These histories would not have borne out in a single case a diagnosis of cancer. A boy sick a short time. A woman with acute appendicitis. What would indicate cancer? Somebody has drawn on his imagination to diagnose a case of that kind as cancer. Nevertheless, that does not put aside the point the doctor intended to make, that even though diagnosis of cancer is made, you will not do your patient any particular harm in doing a laparotomy. It might be even the best of us is mistaken, and the patient will not be harmed, and there is a possibility a gastroduodenostomy might be done to help along for a time.

I think the presentation rather unique, and I enjoyed it.

A. L. COOPER, M. D., (Scottsbluff): An exploratory may fail to reveal the condition. I sent a man home a few weeks ago apparently cured of cancer of the stomach diagnosed by an exploratory operation by one of our best men of the state fifteen years ago, with a diagnosis he would be dead in three months. During the fifteen years he had been a chronic invalid, apparently starved to death. We came to the conclusion there was practically nothing wrong except chronic starvation. We went over him carefully for three weeks, and after encouragement and manipulation, he began to gain a pound a day, and gained twenty-five pounds in weight. He went home feeling better than for twenty years.

Sometimes we must be careful even with our exploratory operations.

JOHN L. MACE, M. D., (Hastings): I strongly suspect I am curing a case of cancer of the stomach of the same type Dr. Quigley described. A man fifty-two came to me two months ago greatly emaciated and retaining scarcely any food. He vomited everything from ten to thirty minutes after taking food. All of the symptoms evidenced cancer of the stomach, as did the cancer pulse and x-ray. He refused operation. I thought it might be pyloric spasm. He vomited all food and medicine, and he could only rest under hypodermic.

I put him on chloride of gold, starting with ten drops in water before meals, and increased to thirty drops, and also 2 cc intravenously three times a week. Within three weeks I had him taking other food. Now he takes sufficient he is well nourished. He feels fine and has not a symptom. He is not gaining in weight.

Am I curing cancer of the stomach, or did he never have it?

SHERMAN J. JONES, M. D., (Hastings): I would recommend all who have trouble in diagnosing these difficult cases might attend this six weeks' course Dr. Hays spoke about.

DR. QUIGLEY, (closing): All I have to say in answer is I believe Dr. Fouts misunderstood something in regard to these cases. They were not acute cases. The woman with the appendix had a history running for six years, and during that time she had been gradually getting worse and all of her symptoms increasing in severity. Her jaundice gradually increased. She had been visiting various clinics and gastro-intestinal doctors.

The boy who had the pancreatic cyst had been kicked in the abdominal region by a mule five years before, and his symptoms dated from that time. It is not impossible, I will say for Dr. Fout's benefit, for a boy of twenty-two to have cancer of the stomach. It is uncommon, but it does occur.

These were cases which came with typical histories of cancer of the stomach and had had the diagnosis made in the leading clinics of the country and had been checked up by internists of the highest standing.

PUBLIC ACTIVITIES

E. R. HAYS, M. D.,
Chairman, Public Activities Committee.
Falls City, Nebraska.

The first thing I wish you to understand is that the Public Activities Committee is not a publicity committee. It is not an advertising committee. The Public Activities Committee is supposed to fill the gap between the public and the profession, which is now occupied by cults and charletans and quacks. The public when well is not concerned in health. The doctor is busy dealing with the individual who is sick and is not much concerned about the public when well. The border-line case, the individual who is growing old and thinking about her health, and whether or not she may develop cancer—looks to someone for information. The only people who have been furnishing this information have been the quacks and the charletans.

The purpose of the Public Activities Committee is to improve the relations between the public and the profession—to bring them closer together by telling the public what we have in our catalogue. The purpose of it is not to damn the cults or talk about them or consider them at all; but simply to tell the public what we have to offer, because it is in a receptive mood and anxious to hear these things. It will receive the news we give with open arms.

Why is this thing necessary? Because the charletans and quacks and 'ism's and cults are giving misinformation of all sorts to the people. It is our duty to the public to protect it from fraud in matters pertaining to health. A wave going over the country rapidly from east to west is socialized medicine. We may think it does not confront us now, but it does confront us, and seriously, too.

It isn't by choice our organization takes up this matter of health education of the public. It is because the people have a right to know how to live. It is a social problem. They have a right to know how to improve their living. If you do not give the information to them, somebody else will. These lay organizations carry to the public the knowledge the scientific men have developed in their laboratories.

At the National Health Conference which I attended last month, the representatives from the social workers were very much in the majority. When a dispute arose as to whether the medical profession should help the social laymen in health education, a lay worker said, "As far as we are concerned, the medical profession can go to the devil! We can hire all the doctors we want for $150 a month. We are putting on this program and will continue to do it, because the doctors will not, and have not."

There is not a state that does not have state medicine to some extent now. It is simply our failure to get the things done we know should be done that put state medicine and socialized medicine in the foreground. The cults and 'ism's knew enough to do it. The thing for us to do is to present to the public what we have in our storehouse, and they will accept it because they inherently believe in us.

I want to mention some of the activities of the committee. It went to a great deal of trouble to find out through investigation the things that had been done in various states. As a result of that investigation, it has been able to discard the bad and save the good, and is now going forward with the things the other committee worked out.

Now, here is a big point. Our relations with the public are in direct proportion to our relations with each other. We must stand together as a group of organized men. Certainly the public is not going to accept an opinion from a divided group. That is true. The way for the democrats to beat the republicans is to get a split in the republican party. The way for the republicans to beat the democrats is to get a split in the democratic party. And the way for these other professions to beat the medical profession is to get a split in our party.

The only thing we have to do is to improve our relationships with ourselves, and carry the things we know how to do to the public. It takes a long time to do these things. We have made a few demonstrations. I shall refer to three.

Last year we attempted to put on a demonstration at the State Fair, which we know is a group of lay people. We put on a pathological exhibit and a display of Paleo-pathological specimens Dr. Young had furnished, and wondered what we were going to do with them. The crowd came in and asked, "What are these things? How can we prevent having this disease?"

We started to tell the people how gallbladder disease might possibly be stopped and how the various diseases these specimens represented might be prevented, with the result the demonstration evolved itself into a series of short lectures which continued throughout the day. We had a little pamphlet called "Keep Well" which the nurses passed out to the people who had heard the lecture. When we counted the pamphlets to find how many people we had talked to, we found over five thousand people had heard the lectures on the first day. That was the biggest day, but we can safely say over fifteen thousand people from the rural districts heard the simple messages of long life.

The question brought to us most often was, "Why haven't the doctors been doing this thing before?"

This has opened our eyes and the eyes of the State Board of Agriculture. This year when we asked for space, they gave us an entire building in a desirable location.

What will we do? Our idea is to carry on these lectures by displaying a pathological specimen which means nothing to the lay man until it is explained and follow with a health message. "This is a cancer. Long before the person has reached this stage, the time has passed when the disease can be cured."

Besides the display and talks which we will have continuously throughout the afternoon, we have arranged for a suite of offices in the Woman's building where we will carry on a periodic health examination to one applicant from each county in the state, this applicant to be selected by the county secretary and his history written at home. He is to be a representative citizen and apparently well. We have arranged that these men will pass through the hands of a group of physicians who are trained to make these examinations and who are honest and uninterested in that particular patient. An opinion as to his present condition will be given. Why? For the purpose of popularizing periodic health examination with the people. We have been talking about it among ourselves for several years. We all believe in it, but we have had little effect in taking it to the public.

Another thing that has come out of our investigation. We learned the Nebraska law requires every teacher teaching in the schools of the state to make a physical examination of the students at the beginning of the school year. In case the school board provides a physician, she is relieved of that task. Most of the schools in town do not employ a physician, and practically all the rural schools do not. So it is up to the school teacher to make a physical examination of her pupils and render an opinion and send it home to the parent. This inventory is necessary to determine the physical status of our school children.

It is needless for me to say the school teacher is wholly unprepared. We carried this knowledge to the teachers' colleges of the state and offered to put on a Health Education course which was graciously accepted. Within the Peru Teachers College where we introduced this course we had a series of nine lectures dealing with various phases of school health to qualify the teacher, not to make a diagnosis, but to determine the difference between sickness and health. She was instructed to dismiss the child from school in case he was ill, and do it intelligently; and carry on the health programs which are now furnished to her from various organizations. That course has been completed. The president of the college calls it his "Ten Thousand Dollar Lecture Course." He refers to it as the most progressive step that has been taken in his college in ten years.

As the result of our Peru experience, we have introduced into the University of Nebraska a course in Health Education, which will begin June 4th. It will consist of a series of twelve lectures given over a period of six weeks to the summer school applicants at the university. We have had letters from other teachers' colleges asking us to introduce this course into their college. As soon as we get money and time, we will be glad to do it.

What is the result of this education? We have medical men teaching health—teaching how to make these examinations—and we are keeping the teacher and all of her pupils within the channels of the medical profession. If we do not do these things, what happens? It is like the child who is reaching adolescence. If he gets no knowledge on sex problems from his parents, he gets it from somewhere else. The same is true of the public. They will get information somewhere, and the cults are glad to supply it.

Our Educational Course and our State Fair work are two activities. Third, we are carrying on a Health program for the lay people in the town in which we hold our scientific session. I have not been able to attend any of these meetings yet, but they have been well received, well attended, and the question has been coming back: "Why haven't you done this thing before?"

There is one thing I want to say in conclusion. There is a movement on foot to repeal the Basic Science law. There is a movement on foot to change our laws dealing with the healing art in Nebraska. The public does not want that change. Unless we make a concerted and organized effort within our own communities to carry these health messages to the public, some organization is liable to undermine this Basic Science law and have it changed, or removed from our statute books.

These things always go by acts of omission on the part of the medical profession. Dr. West, in his recent talk, suggests in every community a doctor should take an interest in civic affairs. There should be a doctor in every community on the school board, and a member of the city council. He should be interested in the life of the people, and carry the influence the profession gives him into these offices.

If we will learn to cooperate and band ourselves together for the common good, we can accomplish anything that we know is right. To illustrate, there is a story I have used several times. It shows the instinct of animals that should exist among men. One day I was making a drive in the country. It was a bright, sunshiny day and the warmth from the sun shone down on a litter of pigs in a pen by the side of the road. The pigs were warm and happy and scattered out independently to the four corners of the pen. That evening when I came home it had turned cold. The sun had gone down. All the pigs had huddled together in one corner to keep warm. The thought occurred to me. There wasn't a pig in that corner for the benefit of the other fellow. He was there for the benefit of himself.

If we huddle ourselves together, we will not only keep the other fellow warm, but we will each enjoy the warmth of cooperation.

I thank you.

DISCUSSION

F. B. YOUNG, M. D., (Gering): I hope that the profession and the state society will take advantage of this movement that has been started to carry education and medical information to the people of the state. The tendency, I am afraid, will be to let this opportunity pass and drop it. I think the people are entitled to medical information. It should be given not only at the State Fair and in our schools and in towns where meetings are held, but by other means as well. I hope at this meeting an effort will be made to develop educational and publicity lines.

Dr. Hays was careful to specify this was not a publicity campaign, but public activities. For my part, I think the two things might be combined, that the people who do not go to the State Fair and to school, and who are not in towns where we are holding meetings, should also be put in position to benefit by the knowledge we may disseminate.

FLOYD CLARKE, M. D., (Omaha): I have a word to say about these public activities, insofar as they apply to the children, especially.

The doctor who practices in the city is asked at various times to go to the State Fair or county conference and examine children, and asked to go for nothing. The question at once arises whether or not that is the correct thing.

Another thing we are confronted with, especially in Omaha, is the Parent-Teachers Association. They have asked certain men to appear at these schools and examine the child as he comes into the school. I am wondering whether or not this is correct, and if we can not get it in the larger way that Dr. Hays has brought forth? It seems to me to a considerable degree we should do it in the larger way by lectures and demonstrations, etc., rather than in this promiscuous and collective examination which you have all attended that has not been so very satisfactory.

I should like to ask Dr. Hays what is the attitude of the Public Activities Committee toward this special way of examining, as I have outlined?

DR. HAYS, (closing): In reference to the health conferences for babies, if the conference is under the direction of medical men, I should say the proper thing is for them to contribute their time and effort. If it is under the direction of a lay organization, assisted by the physician, it puts the physician in a subordinate position, and he should not contribute.

The experience I have had in health conferences over the country is that all the health conferences accomplish is a matter of statistics. You find how many attended and how many were defective, and who got the prize. Unless there is follow-up work in the homes of these defective children, it does not produce results. If the conference is under the direction of medical men and the individual cases are followed up, we might get results.

PRACTICAL SURGERY

JOHN E. SUMMERS, M. D.,
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Added to the everyday accidents to which we have become accustomed, the alarming, increasing frequency of automobile accidents and those of the aeroplane, and the severity and complications of their character has developed a situation such that it becomes an absolute necessity for every physician and surgeon, wherever he may be located, to prepare himself and keep equipped to at least furnish intelligent first-aid, and if he has the confidence in himself to justify his calling he should not hesitate to accept the responsibility of caring for the majority of such accident cases, remembering always that two trained hands often do not suffice to render the best service, and, therefore, the assistance of brother practitioners should be requested whenever the nature of the accident and the circumstances of the surroundings suggest such action of benefit to the injured person.

Vital statistics of the United States Public Health Service, just at hand, call attention to the fact that more than eighty thousand persons are killed as the result of accidents and that more than two million additional are seriously injured in the United States each year. The above does not include the many millions of relatively minor accidents.

The day of the Universal Specialist is gone; he never in reality existed. But there is plenty of room for the all-around doctor; eighty per cent of all professional work can be done by him. Surgery and internal medicine differ only in their therapeutics and they should so dove-tail into one-another that the mutual benefit of the patient is advanced. A good internist should be able to diagnose most of the so-called surgical diseases to which his colleague, the surgeon specialist, devotes his especial attention; he should be familiar by being present at operations upon his patients with the essentials of general surgical technic and the progress of the same, and in many instances he may participate in the conduct of the operation itself, in the home of the patient and in the private hospital, provided he is a safe man and nothing more is required of him than what he is competent to do. By rendering this service the confidence of the patient is advanced in the surgeon, as well as in his own doctor, who will remain his advisor.

Emergency surgery may result from sudden interference with the respiratory apparatus, or the ravages of some malignant or benign pathological process may suddenly develop acute life-threatening symptoms, and we should be prepared either to render efficient first-aid treatment, whatever that may be, carry on with the case to the satisfaction of everyone concerned, or else see that the patient is placed in surroundings and under the professional care of someone better competent because of special experience and ability, to do for him or her what one would desire to be done were the sufferer a member of his own family.

As intimated above, the care of the emergencies of auto accidents, of which it so happens I have seen a considerable number of late, is forcing itself to the front as a vital element in the training of the young professional man, and in the better understanding by the average doctor of how to handle fractures of the skull and long bones and those of the pelvis, and their complications. Contused and lacerated wounds are not of a type for aseptic surgery. They must all be treated by the older so-called antiseptic methods not taught nowadays. Tetanus and gas gangrene must be anticipated and if possible prevented, and properly treated should it develop. We have, in teaching, been getting away from the common-place in surgery.

The surgery of gastric and duodenal ulcers has been written to death, and almost likewise some other pathological processes taking place within the abdomen. There has been nothing new proposed and practiced to the advantage of the patient within the past ten or fifteen years regarding gastroduodenal ulcers. Those actively engaged and experienced in abdominal surgery and familiar with its literature, know this. Wide resections of the pyloric end of the stomach for this pathology, so much heralded and practiced by several sleight of hand American surgeons following the lead of the same kind of German and French operators, based upon the theory that such resection lessens the acid secretion of the stomach and thence the dangers of recurrence of the ulcer and possible cancer development, is perhaps correct, yet why jeopardize the patient's life by such a radical procedure when a milder one is successful in ninety per cent of instances. I recently visited New York City for the purpose of seeing one of these dextrous surgeons do some stomach surgery; his craftsmanship is remarkable, but I am convinced his deductions are not based upon sound principles. Out of ten surgeons competent to do a usually successful gastro-jejunostomy hardly one is a safe man to do a gastric resection. I know of important things, abdominal, which have been neglected. As I have stated, every general practitioner should know how to handle emergency cases; he should at least know how to take care of the different kinds of retention of urine, and the complications which pathology of the bladder and urethra so often demands. We have never for many years been without a number of such patients in the Douglas County Hospital, and we constantly have added the various pathologies of the genito-urinary tract, especially among the derelicts of the male sex. When it is recalled that many, many thousands of urethral infections occurred during the World War, and that in consequence there will result much pathology of the urethra as the years follow, and Modern Civilization is not lessening these dangers, remembering all this, every doctor should know how to handle the great majority of such cases. I have little patience with the physician who cannot in one way or another, relieve a sufferer from retention of urine whatever the cause, or who cannot, with gentleness, treat all but the most complicated strictures of the urethra.

I have indicated that accidental wounds, particularly those of the lacerated and contused type, occurring upon streets and highways, must be treated antiseptically. There is no such thing as pure aseptic surgery. The difference between the two kinds, aseptic and antiseptic surgery, may be briefly described in that asepsis is the employment of heat and all known means (chemical and mechanical) in the steriliation of the hands of operators and assistants, instruments, and all dressings and materials used. The sterilization of the tissue area of the wound already made, or about to be made, must also be complete and the wound protected from contamination from all sources. After the wound has had a proper debridement or incisions made, no chemical agents having irritating or sterilizing properties are allowed to come in contact with the raw surfaces. The dressings applied must be sterile but contain no chemical. Antiseptic surgery is the embodiment of all the details of aseptic surgery and in addition the use of chemicals upon the wound surfaces as a preparatory measure and during the progress and after the completion of a primary or an operative procedure. The employment of certain chemicals (antiseptics) is intended to kill or weaken the power of any germs which possibly have infected a fresh wound. Particularly is this of importance when the infecting germ may be the tetanus or gas baccilus, in many instances complicated by a mixed infection with some one or more of the streptococcus or staphylococcus groups. If suppuration is already established these chemicals assist in stopping or lessening fermentation or putrefaction and thus inhibit to a great degree the more severe and constitutional effects of wound infection.

Drainage: Another cardinal principle of antiseptic surgery is to provide for drainage and apply dressings so that, should suppuration occur or be present, the discharges will be received into dressings impregnated with antiseptics which will lessen any tendency to reabsorption of discharges. Antiseptic dressings also protect a wound from infection from without.

The taking care of the injured in cities where prompt first-aid and rapid transportation to a hospital is furnished by the authorities is one thing, when the doing of this is much delayed or impossible because the place of the occurrence of the accident does not permit, then most often the services of the nearest general practitioner are called into play. He should always have at hand a supply of sterile gauze, cotton and bandages, a ground-glass stoppered bottle of tincture of iodine, and such other antiseptics as he is most familiar with and in which he has most confidence. A physician should always have on hand a variety of sterile ligatures and suturing material with needle attached, a few artery forceps, and one or two pairs of scissors, an Esmarch tourniquet.

I am in the habit of using the following formulae in the preparation of an excellent liquid soap which I use on my hands and fore-arms after scrubbing thoroughly with "Jumbo", a surgeon's mechanical soap:

No. 1,	Green Soap	
	Alcohol 95%	āā 8 parts
	Turpentine	1 part
or, No. 2,	Green Soap.	equal parts
	Alcohol 95%	
	Ether	
	Water	

This No. 2 is more expensive than No. 1, and sometimes may irritate the skin and is no more reliable than No. 1.

When available, and they should always be in the physician's kit, sterile rubber gloves are worn over the carefully scrubbed hands.

The circumstances of the surroundings and the nature of the wound must guide the physician as to the time and place for carrying out the necessary treatment both for the immediate safety of the patient and for his future welfare. The best piece of emergency surgery I have ever known of occurred in Omaha: A man had his external carotid artery and his internal jugular vein cut by a piece of falling glass. A physician, Dr. M. A. Rebert, happened nearby. Seeing the blood spurt he grabbed the man around the neck, pressing both thumbs into the wound, and forced the man onto the sidewalk. Dr. George Ayres, my predecessor in the Chair of Surgery in the old Omaha Medical College, having an office across the street, was summoned; he successfully ligated the severed vessels, using the sidewalk for an operating table and his pocket case and a few dressings he happened to have in his small surgeon's bag. This is told in illustration of the use of common sense in emergencies. There was no washing of hands or perfunctory sterilization of instruments when the primary effort was to save life by stopping the flow of blood. I could narrate many instances of my own experience and knowledge of the work of others, which would emphasize what I have tried to indicate. There are ways of lessening the dangers of infection, even with little at hand, if we only keep in mind the immediate and first essential to the end sought.

Out of doors surgery should be limited to the control of hemorrhage as indicated, either by sterile compress and bandages with or without the employment of a tourniquet, or when demanded, a large bleeding vessel should be clamped, maybe tied, before applying the sterile compress. A fractured long bone should be supported by some kind of splint.

After the patient has been transported to a place where the wound or wounds can be carefully inspected, they are dealt with on general surgical principles. Protecting the wound itself by means of a piece of sterile gauze, the area considered essential around about is carefully prepared as for any set surgical operation. There is no such thing as an accidental wound, whatever the circumstances, which may be considered aseptic. The personality, i. e., whether the person is naturally a clean, neat, individual, the place, circumstances, and nature of the wound, must all be considered in determining the essential procedures to be carried out by the attending physician. In an apparently clean wound containing no foreign bodies, a gentle cleansing by irrigating or sponging with a mild antiseptic solution may be all that is essential; however, when doubt exists as to this most important point, the benefit to be expected from the use of antiseptic irrigating fluids, as carbolic acid 1-40, 1-20, or corrosive sublimate 1-4000 to 1-500, is immeasurably greater than any bad effect they may have on the reparative process. Carbolic acid, corrosive sublimate, formaldehyde solution, Daykin's solution, mercurochrome, and all chemicals having the power to kill germs or render them inert, also have the property when applied to fresh, raw surfaces, of causing a more or less profuse exudation of lymph from the blood vessels. This unnecessary amount of lymph interferes with repair, the approximation of raw surfaces one to another.

An excess of lymph beyond that required for the reparative process acts as an excellent culture medium for the growth of any germs which may have secured lodgement in the wound and remained unharmed by the chemicals in the antiseptic fluid used in the attempted cleansing of the wound. It is generally a wise principle in a wound, particularly a punctured one which many times should be enlarged in order to determine its nature and to cleanse it satisfactorily, and in lacerated wounds, to employ some kind of drainage, at least temporary. If sutures are introduced there should not be too many, nor drawn tight. I always, in any wound in which I fear infection or in which it has already developed, apply moist antiseptic dressings. In a later paper I intend to discuss the prophylaxis and treatment of tetanus and gas bacillus infections. Of the latter, we have had of late in the University Hospital, four cases: Three auto accidents, two requiring amputations (one, of the arm; another of the thigh), and one, an early case, was handled successfully by very liberal incisions, antiseptics and open drainage. The fourth case was a re-amputation of a leg for a painful stump, death followed. The tourniquet was kept on a long time, the technique being a tedious one. The operator is an exceptionally painstaking technician. The only explanation I can offer is that the infection was an endogenous one. A more hopeful outlook for prevention, and even bettering of the prognosis of gas gangrene within the body as well as without, is offered in the use of an antitoxin now available.

ALLERGY IN PEDIATRICS*

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While the definition of the term "Allergy" is being discussed as to its limitations by the various leaders in this sphere of medicine, I will submit one that will apply for this essay that I am attempting as a beginner in this special field.

By Allergy, we mean a hypersensitiveness to various agents, or foods, commonly expressed "protein sensitization", but recent developments asks for a broader interpretation and much is said just now about physical allergy.

The chaotic condition of this rather new branch of internal medicine bids fair to be of more value and to give a much higher per cent of good results in children than in adults. Early in life not many foods are eaten and less contacts are made, resulting in fewer reactions. Obviously it is easier to locate the offending agent and the process of desensitization is more readily and quickly effected.

Rackemann, in reporting end results in the treatment of 1,000 cases of asthma, stated that 20% were cured, 20% remained the same, 40% showed positive skin tests. One might conclude from this resume that 40% were allergic and 60% non-allergic asthmas. If this is a correct inference, then 50% of the allergic cases were cured. If these were all adults, then one might expect a better percentage of cures in children, possibly as high as 60%. A number of pediatric workers have reported even a higher percentage of successful results.

In this composition I wish to discuss eczemas, physical allergy and asthmas from the standpoint of allergic etiology. That these diseases are related seems almost conclusive when one observes the clinical manifestations. In a reasonable percentage of cases one could say eczema before two years, asthma after two years. In the former it is usually a food anaphylaxis, while in the latter it is frequently animal emanations or inhalants.

Before passing to the discussion of these diseases I would like to say a word regarding the methods of testing. Two methods are in common use:

1. Cutaneous.
2. Intradermal.

Peshkin has made a careful check on both methods and summarizes as follows: "The scratch method is superior to the intradermal test for the following substances—rabbit hair, horse dander, ragweed, cottonseed, duck and goose feathers, cat and dog hair, mustard and egg white."

"The intradermal test is superior to the scratch test for the following substances: House dust, chicken epithelium, chicken meat, wheat and corn."

From the standpoint of safety and the determination of etiologic sensitizations, the scratch method would appear to be superior as a routine procedure for testing. The value of the intradermal method cannot be ignored. One method cannot be used to the exclusion of the other.

Of passing interest is a method suggested by Van Leeuwen to determine whether a given case is allergic, or non-allergic. He uses .2cc of an extract of human dander intradermally: a positive reaction in the form of an urticarial wheal indicates the allergic nature of the case and gives promise of obtaining positive reaction to some of the individual protein extracts. Feinberg used the test with no failures to date. I am unable to submit my personal experiences at this writing.

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ECZEMA

Eczema is a disease that baffles the dermatologist, the pediatrist and the allergist. No one of these specialists can boast of a high percentage of cures. Many theories of etiology have been propounded and perhaps all deserve some share of credit.

Czerny told us of exudative diathesis and suggested food irritation, in the sense of a faulty fat metabolism. Schloss later, scientifically demonstrated protein irritation and allergy seemed to be in the spot light.

It is always interesting in medicine if one can find the cause of a malady and remove it and have an immediate cure; such is true in allergy.

This statement must be modified in that all eczemas are not allergic or due to protein sensitization, so any attempt to classify all eczemas under this head would mean disappointment. The results are so striking in 25% to 30% of all eczemas that the patient should be willing to submit to the tests.

Case No. 3434. Female, age 25 mos.

Early history unimportant as regards present condition except mother states baby had some slight eczematous spots during first year. January 24, 1928, patient was referred because of an eczema, which was a squamous dry variety over face and entire body, and of a duration of two months. Eleven cutaneous tests were made with a reaction to wheat proteose only. A very large wheal with pseudopods measuring one inch in greatest diameter occurred.

Extraordinary cooperation in this family resulted in the elimination of wheat from the household and a prompt cure of the skin lesions in three to four weeks. Later a small portion of a white cracker ingested gave an almost immediate reaction of reddening on the cheeks.

Case No. 4756. Male, age 6 months.

Breast fed baby. Eczema began at 4 months of age. When seen on March 21, 1928, the face was very red, oozing with some crusting. Some areas were also present on the lower extremities. 18 cutaneous tests were run with the following reactions:

Spinach 2 plus
Peas 1 plus
Lentil 1 plus
String Bean 2 plus
Carrots ?
Potatoes ?
Duck Feathers 1 plus
Rabbit Hair 2 plus
Wheat Glutein 2 plus.

The baby having been on breast for 6 months and reacting to so many foods, I advised removal from the breast on to modified cows milk and to add cereals and vegetables cautiously one at a time. Three days later this baby showed a very marked, almost marvelous improvement.

Case No. 3232. Female, age 4 years, 6 months.

Early history unimportant, except a tendency to bronchial asthma. Came to my office Jan. 21, 1928 with a marked dermatitis of both forearms. She had been treated by a dermatologist for many weeks. Twenty-nine cutaneous tests were given with the following reactions:

Goose Feathers 1 plus.
Tomato 1 plus.
Cauliflower 1 plus.
String Beans 1 plus.
Spinach 3 plus.
Cheese 2 plus.
Black Walnut 2 plus.

Two weeks later the mother reported the dermatitis completely cured, and due to restriction of spinach only.

Case No. 4411. Male, age 3 months.

Early history unimportant, except as to feeding. Mother had insufficient breast milk and complimentary feedings of modified cow's milk were instituted at three weeks. From three weeks to three months the baby had almost continuous digestive disturbances with a tendency to diarrhoea. During this period an eczema covering most of the body developed. Skin tests for milk casein, milk lactalbumin and goat's milk were made, with a marked positive to milk lactalbumin.

The baby was taken from the breast and placed on goat milk with a prompt disappearance of the eczema and the diarrhoea. An attempt to add cow's milk a few weeks later resulted in the reappearance of the rash and a very severe diarrhoea.

I could report many cases just as striking in improvement as those just related and likewise cases that were complete failures.

A recent report by Campbell in the Canadian Medical Association Journal states that in five cases of eczema in breast fed babies all were cured.

In twenty-seven cases of artificially fed babies, 21 were successful and 6 unsuccessful. He concludes by saying that eczema has responded better than any other group of allergic disease.

PHYSICAL ALLERGY

Duke is insistent that we have physical allergy due to heat and to cold. Picard has observed certain dermatoses in the southern states where two seasons, summer and winter are more defined. He reports many cases of eruptions starting in December and running a steady course until May, then a gradual subsidence until by June they are practically well.

Case No. 3542. Male, age 22 mos.

No early history of eczema. Rash suddenly appeared on the buttocks and legs. His clothing was light weight, consisting of thin cotton bloomers, no diaper or underwear. The first cool weather of the fall season had just occurred. It was diagnosed eczema, due to cold, so called physical allergy. Within 6 days two other cases, Nos. 4547 and 4259 were observed and classed under the same diagnostic heading.

Every pediatrician and likewise every general physician has cases of vomiting in infants, and children up to the age of 4 or 5 years which occur with marked atmospheric changes from warm to cold or cold to warm. Many of these might be classed under the head of physical allergy.

Case No. 3183. Male, age 4 years, 6 months.

Briefly the history is as follows: from 18 months to 2 years had nervous spells with gastro-intestinal symptoms associated with distention. These continued more or less periodically with gradual lessening in frequency and severity. In the past two years it has been noted that in sudden changes in temperature, warm to cold, and cold to warm, the child would have recurrent vomiting spells often associated with diarrhoea. In many of the attacks a slight upper respiratory infection was evident, while in others entirely absent. No unusual foods suggesting anaphylaxis were brought out in the history.

On April 5, 1928, one day after a very heavy snow storm with a big drop in temperature he complained of pain in the epigastrum with nausea, headache and pain in back of neck with a temperature of 103. Bowels were loose on the day previous, but not frequent. Physical examination was negative except for a slightly red throat. A carbohydrate diet was ordered and empirin given for temperature and pains. On April 6, child was reported better. On April 7th persistent vomiting occurred with watery, frequent stools. Temperature did not reach 100 degrees. Glucose solutions, fruit juices and soda were tried in very small and larger portions, but were not retained. Respiratory tract was negative; throat, ears, and nose negative.

Upon the theory that this might be a physical allergy I gave the child 10 drops of adrenalin chloride (1:1000) slowly dropped beneath the tongue. In ten minutes I gave the other five drops remaining in the ampoule. I asked the mother to report to me the next morning. Her report 15 hours later was that the vomiting and diarrhoea ceased at once and that he was apparently normal in every respect. Just as striking results have occurred in 4 or 5 similar cases.

ASTHMA

Regarding the cure of asthma. I might repeat what I said regarding eczema, that it is one of the hard problems that confront the practitioner and pediatrist. Many cases of allergic asthma start at about 2 years with the usual history of an infantile eczema. Nearly all react to inhalants and Peshkin states in the following order of frequency rabbit hair, horse dander, cat hair and ragweed.

Successful treatment depends on first recognizing what foreign protein or proteins are causing the reaction. The disturbing substance is then either removed or reduced in amount, until the patient is symptom free. If this result is impossible, then an effort is made to increase the tolerance by immunizing the individual with the offending protein. Distinction is made by some between bronchial asthma and hay fever asthma, likewise between seasonal and perennial asthma, yet we may have a pollen asthma that is perennial and it is possible to have a bronchial asthma excited by pollens. Classification is impossible with our present understanding.

Therapy in children, as regards all types of allergic asthma, yield better results than in adults. The pediatrist is apt to go farther than the internist in his sensitization tests, he thinks of some food as a causative factor. Admitting that the most pronounced reactions are seen in pollens, yet we know that only a few cases are cured on that therapy alone. A careful search through the various groups is essential in rendering a high percentage of cures. The following is an illustrative case.

Case No. 944. Female, age 5 yrs.

Past history, eczema history during first year; frequent upper respiratory infections with bronchitis and later bronchial asthma. Jan. 9, 1927, came to my office with hives. 16 cutaneous tests were run, with reactions in the bacterial group. Mixed vaccines were given with apparently very good results.

Sept. 9, 1927. Throughout the month of August the mother had spoken to me regarding asthmatic symptoms and I had urged her to come to my office for further tests. She appeared on the above date and 14 tests were run, most of which were pollens, with the following reactions:

Timothy 2 plus.
Western Ragweed 1 plus.
Giant Ragweed 3 plus.
Ragweed 2 plus.

No attempt was made to treat with pollen extracts because the season was at an end. Relief was given by the use of ephedrine preparations.

Oct. 9. Having just recovered from an asthmatic attack further skin tests were made, with reactions to:

Dog Hair 2 plus.
Rabbit Hair 2 plus.
Cat Hair 2 plus.
Orris Root 1 plus.

Having a dog, the dog was disposed of, furs on winter clothing were not allowed. Up to Feb. 15th, patient had no attacks of asthma or bronchitis. They moved to another city and no report has been received.

CONCLUSIONS

Allergy in pediatrics is of real value.

In eczemas in the breast fed infant, results are somewhat better than in the artificially fed. Both respond quickly if the offending protein is discovered.

Infants and children are more responsive to cures than adults.

Physical allergy is an allergic entity.

Asthmas are the chronic stage of an allergic disease, and, therefore, are slower to yield to treatment. It is my belief that the early desensitization of the infant, may do much toward the prevention of asthma.

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DISCUSSION

HERMAN M. JAHR, M. D., (Omaha): I do not know of another condition that causes the pediatrician as much trouble and difficulty as treatment of these allergic conditions. The treatment of eczema is one of our bugbears. I think the trouble has been the pediatrician usually takes it as a purely general condition, while the dermatologist thinks it is purely a local condition. It is true in any case I have seen, the general condition is quite an important feature in the treatment of infants. However, we must remember in cases where the condition has lasted any length of time, there are local changes in the skin which need treatment locally, and they will not clear up under general management.

It is true, too, that in some cases of breast-fed babies the eczema will clear up if you institute artificial feeding. I do not favor this. In the clinic we have quite a bit of trouble in getting these mothers to stay with us and keep their babies on the breast. We tell them it is better for the baby to have eczema and be fed on the breast than to wean the baby and get rid of the eczema, which usually disappears within a year or two. It is not a pleasant condition to look at, and the mother gets disgusted with the appearance of the baby. In most cases she weans the baby. We find under some circumstances that withdrawal of breast milk will clear up the eczema.

In the general management of an eczema in bottle babies, one pediatrician classifies these babies into three different groups. First, the fat group—the baby being overweight; usually has a true eczema. These babies are overfed, and the most offending substance is the high fat content of the food.

In the second class he puts the undernourished baby with the exudate type of eczema, with loss of weight—her failure to gain being due to protein intolerance.

The third type, due to carbohydrate intolerance, is usually the pustular type.

It is not difficult to clear up eczema if we get the co-operation of the mother and the entire family and the pediatrician and the dermatologist. I do not know of very many babies whose condition has not cleared up by local and general management.

A word about asthmatic children. I find asthma in the child is easier to handle and desensitize than asthmatic conditions due to ingested proteins. I have in mind a child of a physician who had an asthmatic attack on the ingestion of eggs. He was sensitive to egg white. The treatment consisted of adding small doses of egg white gradually until the patient had been desensitized and he can ingest cake and white bread with impunity.

In babies who show intolerance to milk proteins, especially cow's milk, where goat's milk is unavailable, I usually add a drop of cow's milk in every bottle, and thereby desensitize the child to cow's milk. I think the only thing we can do is to desensitize the child in that way.

C. C. TOMLINSON, M. D. (Omaha): I think in the matter of allergy there is lots yet to be learned about it. Two of the Doctor's case reports seem to indicate that. They report two plus, three plus, etc., to various proteins used in skin tests. In one case they cleared up after the removal of spinach from the diet.

Nothing has been more disappointing to me than the attempt to pin down to a certain food some of the skin problems which I see. The matter of eczema in infants generally is a problem of allergy. I think pediatricians will agree the majority of severe cases are seen in the breast-fed and the well nourished baby. It has been brought out by discussion a good many of those cases will clear up when the baby is removed from the breast and put on the bottle.

The essayist has said these cases are considerable of a bugbear to both the pediatrician and the dermatologist. Doctor Jahr has said with co-operation of the parent and pediatrician and dermatologist, good results are obtained. That has been my experience. With even mediocre co-operation of the patient, we can clear the majority of infantile type cases. Crude coal tar is a thing which contains by-products which are toxic. Unless it is well watched, it may do more harm than good. I do not let my crude coal tar prescriptions go to any druggist. I do not know exactly what his tar preparation is, and it may not be good.

The personal element in the reading of these reactions to protein in skin tests is I think a large one. We read them "one plus" or "two plus" when our controls might be read the same way. In those cases in which it would seem I should get definite sensitation reaction, I have failed. I have almost abandoned the use of allergens. I think they are a much overemphasized thing and there is a lot of work to be done before we have much practical benefit from their use.

C. R. SPICER, M. D., (Hastings): I have not gotten up so much to discuss the paper as to ask whether or not the case I am about to detail briefly is probably one of allergy.

A child eight weeks of age was brought to my office two weeks ago. It is the first child in the family of a healthy mother. The child was in good condition, well nourished, half a pound over-weight, and doing well in every way except that from the previous week it had had some convulsions after nursing. The convulsions occurred once a day at first, two or three on the second day, and three or four on the third day, when I saw the child. The mother's milk contained less than one per cent of fat. Otherwise, there was nothing about it to criticise.

The child's functions were all right. It was happy. But these convulsions were occurring in frequency and severity. I gave the child a sedative in the form of luminal. On breast milk it continued having convulsions. I put it on one of the dry milk preparations, and with one-half as much sedative it had no convulsion. The next day I put it back on the breast, and it had the same convulsions within one-half hour after nursing. The day following I withdrew the sedative and substituted dry milk, and the child had no further convulsions. From that time on we used dry milk, and it has had no further convulsions.

I wish to ask Dr. Colburn if he regards this as a case of allergy?

A good deal has been said about the management of eczema. While it may be a dermatological problem, it is a question for the pediatrist as well. Some years ago I undertook to analyze these cases after diagnosis from a test of the allergic standpoint with very little success. The matter had not been as well worked out then as now. Out of twelve cases, I had one satisfactory. I found the tedious routine of the examination was so unsatisfactory to the patient, I abandoned it.

In support of what Dr. Tomlinson has said, we find they can be satisfactorily managed by a coal tar preparation. I have used a great deal for years, one of crude coal tar and some starch and a few other simple things with a fair degree of satisfaction, providing, as Dr. Colburn said, we take in the general situation in the management of the case, keeping from it hard waters and soaps, and protecting it from mechanical irritation such as scratching.

I believe the emulsifying of tar preparations is important. Most druggists will not take the trouble to rub an ointment to a consistency where it is not irritating. I took the gear box out of an old car and cleaned it and arranged it so that it could be driven by a motor. We put in a load of four pounds of formula and let it run until it is as smooth as oil. It does not deteriorate, and it has made itself a reputation over this South Platte country. I say that for the manner in which it is made, not for the thing itself.

I thank you.

JOHN V. REILLY, M. D., (Grand Island): I want to say I believe in practically all these cases of allergy, whether eczema or asthma, that we have a hereditary condition. I think it is best to treat them more on the assumption we have an extensive diathesis. On this assumption, I think you will find some of the family have rheumatism or recurrent headaches. On this assumption it has always been my duty, as I felt, to give these cases atropin in small doses. I have felt I got fairly good results by treating them as a combination of allergens, giving atropin in small doses three times a day, besides coal tar products, and combining protein reaction in our treatment. Some men are using adrenalin with good results.

This subject has not been gone into sufficiently by men to assume in practically all cases of asthma or eczema we have a hereditary condition, finding out from personal history of the families whether they have had recurrent headaches or rheumatism.

DR. COLBURN, (closing): Dr. Jahr spoke of the local treatment. I want you to understand we use local treatment a great deal and local applications also. We refer cases to the dermatologist also. I think we need their cooperation many times. But if we can pick out some disturbing food by this method, we can almost do away with all these other helpful methods, if you get a real definite allergic response.

There is no question but what we do have our fat eczemas, and we can reduce the fat in our formulas and get almost as marvelous results. Those might not be allergic. In one or two of the cases I reported, they reacted to cow's milk and not to goat's milk. We would not consider it good policy to take the baby off the breast without knowledge of that sort. Where there is no reaction to cow's milk, we take the baby off the breast and get a cure of the eczema.

Dr. Tomlinson spoke of his disappointment in the use of allergens. I had that same disappointment eight or nine years ago after returning from Boston. I was quite enthusiastic, but after trying a few, I found my results were similar to his. They are not perfect by any means now, but I am going into it more thoroughly, and have had some wonderful results and feel like staying with it. There is a good deal more being done along that line.

You might put the whole wheat test on the arm and not get a reaction; yet you might divide it into various elements and get a reaction, like in one case we got a reaction to wheat glutein. I think one of the government men at Washington has written some very good literature along the line of splitting them up still more.

In Dr. Spicer's case, it would be necessary to test the breast milk of that mother onto a scratch test on the baby which could have been easily done. He could prepare the milk himself. I think it was toxic. I think it is conclusive there was a milk reaction.

Dr. Reilly spoke of a hereditary condition. It is important to know the history of these cases. You can nearly always find some member of the family who has had asthma or eczema. Many authors say as high as 48 per cent will show that sort of history.

INFECTIONS INCIDENT TO THE BEET-SUGAR INDUSTRY*

F. B. YOUNG, M. D.,
Gering, Nebr.

It has appeared to those of us who are familiar with the Beet Sugar industry that there is an unusual incidence of infections in this industry, certainly more than has been observed in most manufacturing industries. The producers of sugar beets, the farm laborers and the refiners, the sugar factory laborers, are subject to various types of septic and wound infection and several types of fungus infection.

Septic infection with the various types of streptococcus and staphylococcus are of common occurence. Cases of erysipelas and cellulitis are under care during each growing season and manufacturing campaign and present the usual classical symptoms of these conditions with the common laboratory findings.

. Tetanus is of occasional occurence and usually follows punctured wounds which have been neglected. This condition is so common that we find it advisable to administer tetanus antitoxin in prophylactic dosage to every case of injury that cannot be thoroughly opened to its full depth and completely cleaned. In every case of lacerated wound this is mandatory. Such a condition is to be expected when one remembers the surroundings under which these people work, for in the presence of animal manure and with the constant handling of domestic animals, tetanus infection is particularly prone to occur.

Fungus infections occur frequently. The most common is sporotrichosis, cases of which are under observation nearly every summer. These cases are cured by intensive iodine therapy, constitutionally and locally, and seldom give long continued trouble. The intravenous administration of sodium iodine is particularly prompt in its effect. One case that came under my care in 1924 had contracted the disease the year before, spent the winter in Lincoln where he was under treatment, came back to the Valley to work in the beets with the infection still uncontrolled. This case was cured after a few weeks of iodine therapy. I mention this case particularly to call attention to the frequent failure to recognize this rather common disease. We must quit thinking of sporothrix infections and other mycotic diseases as of uncommon occurence and make the attempt to recognize them. Every chronic infection and the suspicious acute ones should be examined in the laboratory by both smears and cultures and in this manner many cases of fungus infection will be discovered.

A type of fungus infection occasionally seen is Mycetoma, a condition resembling "Madura foot." This infection usually follows a punctured wound or an abrasion, the foot becomes swollen and tender, the skin is first affected and the infection later spreads to the deeper structures. "Madura foot" is not a clinical entity, but a general term applied to almost any type of mycosis of the foot, the manifestations of the disease varying with the infecting organism.

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

These cases are very stubborn and yield slowly to treatment, though prolonged and intensive iodine administration will ultimately give good results.

Another type of fungus infection which is quite common occurs upon the hands, feet, and other exposed surfaces of the beet field laborers. This usually follows a scratch or slight abrasion and is characterized by a small indolent pustule surrounded by an elevated wheal-like area of skin from one to four centimeters in diameter. This assumes a deep bluish or purplish tint with exfoliation of epithelium and a serous non-purulent exudate. If it is not treated the condition slowly penetrates the deeper structures and a deep necrotic ulcer results, followed by a slowly separating slough which leaves a granulating surface.

This ulcer is singularly free from pain and if the patient is fortunate enough to escape a mixed infection he continues able to work. Mixed infection with the pus-forming organisms sometimes occurs with all its concomitant troubles. Iodine has but little effect upon this type of mycosis, but it yields readily to mercury. Recently I have been using mercurochrome, but prior to its development had used mercury bichloride in wet dressings with equally good results.

Several cases have occurred in which the only organism found is the *Bacillus Subtilis,* and the condition seems to be wholly due to this usually inoffensive organism taking on a mildly pathogenic character. These sores are superficial, very indolent in character and heal slowly but surely under wet dressings of any of the milder antiseptics. Several years ago I saw a case in consultation with Dr. F. W. Plehn in which we found this organism in blood cultures. In this case hexamethylene was used intravenously with prompt good effect.

The factory laborers about the "beet end" are subject to the same types of infection as are the farm laborers as they handle the beets as they come from the farms.

In the other parts of the factory the septic infections are more common, of which the most common is the "sugar boil" a typical *Staphylococcus Albus* infection, though occasionally one of the other varieties of staphylococcus may be found. This is a localized process occuring usually on the hands, arms, and neck, but occassionally on other parts of the body. It lies in the deep layers of the skin and in the connective tissue under the skin, is quite painful, indolent, and with little tendency to point. When it does point it is usually in a "collar-button" fashion which does not permit of free drainage. As it advances a definite white central slough forms which in the course of four to six days becomes loosened and is discharged as a "core," after which the lesion promptly heals. Cultures almost always show pure growth of *Staphylococcus Albus*, with seldom a mixed infection of other organisms. Ordinarily such infection is purely local in its effects, but cases are occasionally seen in which such serious sequels as osteomylitis, pericarditis, endocarditis, or general septicaemia, occur. Severe constitutional involvement and metastatic abscesses are more prone to occur when streptococcus infection is implanted on staphylococcus infection. In one such case a septic embolus to the brain resulted in a fatal abscess.

It will be seen that "sugar boils" are not the simple unpleasant things one usually considers them, but that they have tragic potentialities. The Labor Commissioner and the Insurance Companies have ruled that they are not compensable injuries, that they are occupational diseases, a ruling that leads to a certain amount of neglect.

Prompt deep incision followed by swabbing with Tr. iodine or phenol and a wet dressing is the most satisfactory treatment, and should be resorted to early because of the danger of serious complications. The application of poultices and other temporizing methods are to be deplored, as they add to the amount of slough, prolong healing time, and increase scar formation.

Virulent streptococcus infections of the hands and feet also occur. In these cases the well known rules of surgery are to be followed promptly, particularly adequate and early incision. Care to give due attention to the pathology, anatomy, and physiology, of the affected region at this stage may save a useful member that would otherwise be sacrificed. These patients must be impressed with the dangers inherent in their infection to the heart, the kidneys, bones, and other organs.

It was my intention to report illustrative cases and give some details of laboratory work and more data as to diagnosis and treatment, but the time limit does not permit.

These infections do not differ essentially from others of the same character, but they do occur in greater numbers apparently, than they do in other industries and have thus given an opportunity for extended observation.

DISCUSSION

A. L. COOPER, M. D., (Scottsbluff): Dr. Young has had almost unlimited observation of these cases during the last ten years in the North Platte valley. We have met a particularly large number of infections among the sugar workers. I have not any exact data to prove my contention, but I believe the matter of the incidence is largely due to the nature of the industry itself.

We have a mixed population—Japanese and Mexicans and Russians—a class of people to whom soap and water is largely a foreign element, except for the Japanese, who keep themselves fairly clean. It is impossible by the nature of their work to keep away from a larger percentage of infections than probably any other farming operation. In the sugar factory itself we have an element which enters it largely. Sugar and the alkalis and water make a good culture medium. It is impossible to go inside a sugar factory without getting fine sugar dust in the clothing and on the skin. This, together with the laceration of the skin and the moisture, is a good culture medium for most of our organisms.

The Doctor has mentioned a case simulating Madura foot. One was a patient I took care of, and he helped me part of the time. He was a Japanese. He had been wearing rubber boots. He had a little red spot on the dorsum of his foot. It did not look as if it would amount to anything. In three days it was well indurated and had spread to one-third his foot. Then it broke down and a sinus formed. We found it was a fungus type of infection. We treated him until its cure eight months later. We put him on sodium iodide, potassium iodide, and he was taking up to one hundred grains a day. After he got better, he insisted on taking it even though his throat was sore. The man weighed 135 pounds. For nearly six months he took one hundred grains a day. When he stopped taking it for a week or ten days, it got worse. It finally cleared up entirely. He also had tincture of iodine used locally on the skin, and a weaker injection in the sinus.

The nature of the industry is largely responsible for these types of infection.

THE MALNOURISHED CHILD*

GEORGE L. PINNEY, M. D.,
Hastings, Nebraska.

We will take a few cases of the children we have been examining in the schools. We have gone through some thirty-five hundred pupils and picked out a few interesting cases of the malnourished child.

Slides are shown of children of poor posture with wing scapula, round shoulders, secondary anemia, underweight as compared with the overweight plethoric child, incipient tuberculosis, adenoid and tonsillar facies and motion pictures of different types of incipient diseases of malnourished. Two cases are shown, one on a girl of 9 years whose present complaint was:

Present complaint: Has been subject to attacks of "stomach trouble" all her life. Pain in stomach and vomiting, usually some fever. Pain always worse after taking food. She has been on a diet for more than two months and seemed to improve for a time. About 10 days ago she seemed to have a severe cold and has complained of soreness in stomach since then.

Previous illness: Measles, chicken pox, probably whooping cough. Ear trouble 5 years age, threatened mastoiditis. No other illness of importance except stomach trouble. She has been underweight the last three months.

Physical findings: Hypersensitive, emotional, spoiled child who evidences mild degree of secondary anemia. Head and neck, negative. Chest, well developed, good expansion. Heart and lungs, negative. Abdomen, 3 plus, tenderness and rigidity in epigastric region. Liver, spleen and kidneys negative to palpation. No rigidity or tenderness in region of gallbladder or appendix. Genitalia and rectum negative. Reflexes markedly exaggerated. Urine, negative. Blood, negative.

X-ray—Evidence in favor of gastric ulcer.

On modified Sippy regimen there was definite improvement, and since leaving hospital has gained fifteen pounds, feels good and is improving satisfactory.

Second case: Girl, age 5 years. Previous illness, none. Contagious diseases, none. No operations or serious injury. Appetite, good; sleep, good; bowels, regular; urine normal. No tea or coffee. Only child.

Family history, negative.

Present complaint: Prominent abdomen, marked lordosis, walks on toes. Tires easily.

Clinical history: Breast fed. Evidence some three years ago it was noticed that the abdomen was gradually getting larger, as the abdomen gradually enlarged patient became sway-backed and began to walk on the toes.

Physical examination: Weight, 32⅝ lbs.; pulse 92; temperature 98.6. Tonsils, suspicious; teeth, suspicious; pupils, negative. Chest well developed, good expansion. Lungs and heart negative. Abdomen distended, rigid definite enlarged tumor mass extending as three finger breadth above the umbilicus. Pelvic and rectal examination, normal. Spine, marked lordosis. Joints and extremities negative. Urine negative with a faint trace of albumin. Hemoglobin 62 W. B. C. 6,100; R. B. C. 3,351,000. Differential and Wassermann, negative; stool negative; spinal fluid, negative.

X-ray examination: Marked shadow involving the entire abdomen to within ten millimeters of the diaphram.

Diagnosis: Abdominal tumor mass probably of the psoas muscle, possibly malignant.

Exploratory operation performed by Dr. B. B. Davis, February 6, 1926, and tumor mass removed from its attachment to the psoas muscle section and found to be mixed sarcoma, by Dr. Wohl. Deep therapy was administered over a period of sixteen months. She has not had any since and is developing normally and is well in all respects, and to date there has been no evidence of recurrance.

We believe that the malnourished child should be individualized to obtain the best results.

ENTHUSIASM

"Nothing else is so contagious as enthusiasm. It is the real allegory of the fable of Orpheus; it moves stones and charms brutes. It is the genius of sincerity, and truth accomplishes no victories without it."

"Let us beware of losing our enthusiasm. Let us glory in something, and strive to retain our admiration for all that would ennoble, and our interest in all that would enrich and beautify our life."—Phillips Brooks.

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*Read before annual meeting Nebraska State Medical Association, Hastings, May 15-17, 1928.

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ROSTER OF OFFICERS

	Term Expires
Dr. B. R. McGrath, Grand Island, President	1928
Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

COUNCILORS

Dr. R. D. Bryson, Calloway, Chairman	1929
Dr. L. W. Rork, Hastings	1929
Dr. C. A. Selby, North Platte	1929
Dr. F. W. Plehn, Scottsbluff	1929
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Dr. W. J. Douglas, Atkinson	1928
Dr. Frank Tornholm, Wahoo	1928
Dr. H. E. Potter, Fairbury	1928
Dr. A. P. Overgaard, Omaha, Secretary	1930
Dr. H. J. Lehnhoff, Lincoln	1930
Dr. C. P. Fordyce, Falls City	1930
Dr. A. E. Cook, Randolph	1930

DELEGATES TO A. M. A.

Dr. A. D. Dunn, Omaha	1929
Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

Dr. J. S. Welch, Lincoln	1928

MEDICO-LEGAL DEFENSE COMMITTEE

Dr. Roy W. Fouts, Omaha, Chairman	1929
Dr. C. A. Hull, Omaha	1928
Dr. R. B. Adams, Lincoln, Secretary	1930

Note: In case of suit notify secretary at once.

SCABIES

True itch or *scabies* is due to a minute insect, the itch mite, *(Sarcoptes scabiei)*, burrowing and propagating beneath the skin and is not to be confused with itching symptoms due to other local or constitutional diseases. True itch occurs in irregular, somewhat concentric patches of pimples, often surmounted by small scabs, over the body, with a tendency in the severer cases for the patches to coalesce. It is almost always noticeable between the fingers as small round pimples which exude a serous or sero-purulent fluid on squeezing. The warmth of the bed increases the itching.

Itch is easily cured if certain necessary directions are given by the prescribing physician and strictly followed by the patient. In no other disease does so much depend on directions. Sulphur is the remedy for the itch but the sulphur and lard ointment of our grandmothers is not satisfactory. A patient with the itch needs the service and supervision of the physician and the physician's success in treating the infection will depend on the time and care he takes to impress the patient with the need of proper preparatory bathing, proper drying before applying remedy, thorough application of the remedy, and proper instructions about change of underwear and bedlinen. The directions are as necessary as the remedy.

The writer has had the experience of having people come to him from a distance saying they had heard he could cure the itch. The time and patience taken to instruct people how to do it, is the secret.

SOME OF THE WORK OF THE A. M. A. HOUSE OF DELEGATES

The proceedings of the House of Delegates of the American Medical Association gives a splendid idea of advanced thought in organized medicine.

The Reference Committee endorsed in substance the following resolution:

> "(1) That it would be desirable that medical students should graduate and enter practice at an earlier age than at present;
>
> (2) That the plan of covering the medical course in three years of four quarters instead of in four years of three quarters, or any other adequate plan for reducing the length of the medical course, is greatly to be desired;
>
> (3) That the medical course is overcrowded with details and with detailed consideration of specialties and would be improved by less crowding with a course confined more nearly to the essentials, and that efforts to this end should be made."

And in reply to the letter of the National Grange that "the problem of medical education is fundamentally economic and the solution involves much more than mere length and cost of medical education."

The Reference Committee especially approved of the suggestions of the President-Elect that in the multiplicity of independent medical societies there exists a danger of diverting and dissipating the fundamental strength of organized medicine "as typified in the composition of our county, state and national organizations."

The recommendations of the Reference Committee on Reports of Officers were adopted by the House of Delegates.

The Reference Committee on the Reports of the Board of Trustees and Secretary endorsed that part of the Secretary's report relative to the multiplicity of existing independent medical organizations whose work, in many instances, parallels the work of the component county and constituent state medical associations and, to some extent, tends to interfere with the successful operation of component county medical societies and constituent state medical associations of the American Medical Association.

Concerning the meetings of hospital staffs, the Committee offered the following statement:

The committee deprecates especially the compulsory multiple scientific meetings of hospital staff organizations. These have tended to limit to small groups the dissemination of medical information and the discussion of medical problems, interfering thereby with the work of organized medical societies. Organization is necessary in order to obtain unified action of the medical profession in various communities. We feel that the need is greater than ever for general discussion of medical problems and for the dissemination of information associated with the specialties to all physicians. Only in this way can the general practitioner keep abreast of modern medicine.

Your reference committee suggests that the staff meetings of hospitals be devoted preferably to executive discussions of problems relating to hospital economics and records, and that members of the American Medical Association make special efforts to stimulate interest in, and the development of, scientific medicine in the regularly organized county medical societies.

On recommendation of the Reference Committee on Reapportionment of Delegates, 775 was established as the basic figure for determining representation of state associations. Thus, each constituent state medical association will have one delegate for each 775 members. Each association with a membership of less than 775 will be represented by one delegate. On this basis, the total membership of the House of Delegates will be 173. California, Florida, New Jersey, New York and Pennsylvania will each gain one delegate, under the new apportionment, while Iowa and Texas will each lose one delegate.

A resolution introduced by Dr. Orrin Sage Wightman of New York provided for the appointment of a committee on visual moving picture education whose duties shall be to deal with the problem of using moving pictures for educational purposes. This resolution was adopted.

NURSES AND THE NURSING PROFESSION

Are there too many nurses today? Are they charging too much for their services? Are their requirements for entering training schools too high and correct? What reliable method if any have we to select a suitable nurse for different types of patients—say, pneumonia, or difficult feeding or ileus or mental depression cases? These and many other questions are being fittingly asked today without very hopeful replies.

At the recent congress of the Council on Medical Education and Hospitals, a preliminary report of a special committee appointed to make a survey of the needs of the nursing profession was given. It deals with many of the above questions and others.

In reply to a questionnaire letter sent out asking 295 different communities if they needed more nurses, the reply was NO in 281 cases and YES in 14.

There were about 18,000 nurses graduated in the year 1926 and the plotted curve for recent years shows a marked increase each year. The shortage is said to appear only where the cases are in the home—or especially out in the country—or of certain varieties not to the liking of the general nurse—such as obstetrical in the home or mental and nervous cases, etc.

The general analysis seemed to show that the nursing profession needed to scrutinize its own ranks and schools not unlike the doctors had to scrutinize their ranks and schools two and a half decades ago when the A. M. A. through its Council on Medical Education began its purpose of improving medical education in North America.

Conceding that there are good, bad and indifferent nurses in the profession, with the latter two classes abundantly represented, the committee attempted in its survey to find the cause or causes and to offer suggestions for solution.

It is found that many girls improperly disciplined in high school either of choice drop out or fail. Lured by attractive wages of the trained nurse and a living during school days, or perhaps attracted by morbid curiosity or possibly urged by parents with the thought of placing them in training under helpful discipline, these girls take a nurses training. When they have graduated three classifications open to them:

(1) Public health nursing.

(2) Teaching or institutional work.

(3) Private duty.

To either of the first two classes the girl must pass rather rigid tests which tend to eliminate the lazy girl—the girl who would not work in high school and the undisciplined girl. She is characterized by the hospital or institutional superintendent and by the Public Health boards. Private duty alone remains for her. A sort of sifting process, therefore, tends to fill up these ranks. She probably was not such a bad student nurse because under discipline, but when out on her own she lapses as before and she is frequently not a credit to the profession.

The committee offered two solutions to this problem. More careful selection of pupil nurses, as to previous training and discipline. More early characterization as to what kind of a graduate nurse she would be rather than how she would behave and serve as a pupil nurse. Also a more helpful, suggestive, constructive leadership during her training. Following this and for those nurses already in practice, let there be a cooperative classification analysis between hospital, superintendent of nurses, floor supervisors and registrars of graduate nurses, to the end that all practicing nurses may be registered according to their special abilities. The committee believes that the time should come when nurses may be had at qualified registeries according to special needs of a particular case. If only watching is needed where the mother is perhaps exhausted, then a nurse qualified for this duty should be available at a cost in proportion to the services. On the other hand if a special nursing ability is needed for intravenous medication, using a duodenal bucket, expert hydrotherapeutic services, care of critical mental cases, special feeding knowledge in infants, etc., etc., then the registrar should also be able to provide this and a charge commensurate to the service be justified.

The survey is constructive in character and seems to justify the following conclusions:

(1) That the nursing profession today needs a house cleaning within its own ranks.

(2) It should keep out more undesirable material in recruiting pupil nurses.

(3) Utilizing nurses already available by classification as to special abilities through helpful leadership.

(4) Perfect this classification to provide type of service needed.

They hope that the medical profession will interest itself by learning of these needs and assist the nursing profession in this constructive program.

—J. S. Welch

MEDICAL EXPERT TESTIMONY

Mr. Lloyd Paul Stryker Esq., in a searching article "A Consideration of the Need of Legislation Bearing Upon the Question of Expert Testimony," published in the *New York State Journal of Medicine,* March 1, 1928, deducts the following:

First: There are existing evils in expert testimony. But how many, if any of these, should or could be remedied by legislation is another question. The fact that evils exist does not prove that legislation is the remedy. In this country too many rather than too few laws are passed. Many new enactments are ill-considered, some of them seem hardly to have been considered at all. Let us, therefore, make haste slowly in the advocacy of new statutes, and if we are to sponsor anything, let us be certain beyond a peradventure that that which we espouse will improve rather than make worse the conditions now obtaining.

Second: I believe in our inherited Anglo-Saxon system of the administration of justice through the medium of court and jury, where every witness must be publicly examined and cross-examined in open court, and where no witnesses are entitled to any further rights or privileges than any other; where each must stand or fall, dependent upon the veracity, the character and the intelligence which he has brought with him to the witness stand.

Third. I am against the appointment of expert witnesses by the courts in civil cases. Such an arrangement, if it precludes a party of the privilege of calling those of his own selection, deprives him of a substantial right—the right to produce testimony of his own selection, and which in many instances may be of greater scientific and probative force than that obtainable from official appointees. The appointment of experts by the courts is open to serious constitutional question and indeed in at least one jurisdiction; such a law has been declared unconstitutional. An arrangement whereby a party may call his own experts, in addition to those appointed by the courts, or may choose which he will call, would render any supposed advantage in having court-appointed experts nugatory, and would add to the complexity and technicality of court procedure already far too deeply enmeshed in that to which laymen, not without just cause, have so frequently referred to as "red tape." It would increase that ill of which since Shakespeare's time, mankind justly has been complaining: "the law's delay".

Fourth: I would not interfere with the hypothetical question, nor deprive an expert witness of the widest latitude (provided his answer is based upon the proven facts on which the hypothetical question is predicated) in expressing an opinion which his conscience and scientific knowledge will enable him to express.

Fifth: The only legislation which I would favor would be that clarifying and sustaining the discretion of the trial judge in deciding in the first instance, whether or not a witness is in fact, qualified to give expert testimony on the specific matter concerning which he has been called to render his opinion, and I would make it clear that the mere fact that a man has been licensed to practice medicine does not in itself qualify him to express an expert opinion, unless on his sworn testimony it appears that by special knowledge and experience he is in truth and in fact qualified to express it upon the particular subject in hand. Whether he is qualified or not is a question which should be clearly lodged within the sound discretion of the trial court.

Sixth: Legislation of the kind proposed might help, but the real remedy for existing evils lies in the better development of conscience on the part of those who now for pay express opinions in which they do not honestly believe or, who for hire advance unfounded or disproven theories in an effort to thwart justice. This remedy—the development of conscience—could best be made effective through the suggestion of Judge Willard Bartlett: the adoption of an amendment to the doctors' principles of ethical conduct specifically and in clear terms condemning as unprofessional those practices which our enlightened lay and scientific opinion agree in condemning as improper and unworthy.

GOVERNMENT MEDICINE

It has been suggested by a correspondent that the cause assigned in a recent editorial in these columns for condemning the Sheppard-Towner maternity and infancy act may be an excellent reason for approving it. The cause assigned is that the Sheppard-Towner act is the well-defined beginning of a comprehensive system of government medicine, and that out of it may ultimately grow federal medical care for the entire American population. The correspondent suggests that federal medical care for the entire American population may be a very good thing.

If the children's bureau, which is now propagandizing for a renewal of the Sheppard-Towner act next year, will accept the attitude taken by our correspondent, the opportunity will be presented for a clean-cut debate on the merits of government medicine, and we have no doubt that public opinion will decide against the bureau's attitude. But the children's bureau is not so frank. The children's bureau, on the contrary, attempts to disguise the fact that the Sheppard-Towner act is being so applied as to lead to socialization of the medical profession.

The Sheppard-Towner act was intended to be a childbirth act. The federal government was to contribute money to the states for the furtherance of work to lessen the number of deaths of mothers and children in childbirth and soon thereafter. The introducers of the Sheppard-Towner bill explained in congress that the bill was intended to apply to children under one year of age.

It was as a childbirth bill that this bill passed congress, but when it had become a law the federal officials responsible for enforcing it decided to interpret the term "infant" as meaning any child of pre-school age. This interpretation was directly contrary to the meaning of congress when it enacted the bill. But it has been explained by the children's bureau that this interpretation was legally permissible, inasmuch as in law the term "infant" means anyone under 21 years of age.

The federal board of maternity and infant hygiene, therefore, feels it has acted moderately in limiting the application of the act, as far as infants are concerned, to infants of pre-school age. Whenever the board wishes to do so it can extend the application to infants of grade-school age, and later to infants of high school age, and still later to infants of college age. Moreover, as the word "maternity" means the state or quality of being a mother, the federal board has equal legal authority to apply the act to all women who are mothers, regardless of how long ago they achieved that condition.

This distortion of the plain intention of a childbirth act is a deliberate step toward a system of government medicine. If the children's bureau wishes to advocate government medicine, if it wishes to establish an enormous medical bureaucracy on the federal payroll, let it say so frankly, and the battle will be fought out on those lines.

—Chicago Journal of Commerce

ANNUAL MEETING OF THE COUNCIL ON PHARMACY AND CHEMISTRY

Among the questions considered, those of special interest to the medical profession were: It was decided to cooperate with the Committee of Pharmacopeial Revision studying the activity of a digitalis preparation for hypodermic use offered for the Pharmacopeia. It was decided that unless new evidence develops, to exclude all digestive enzyme preparations from New and Nonofficial Remedies with the close of 1929. It was decided to omit all desiccated pituitary preparations from New and Nonofficial Remedies with the close of the longest period for which any such preparation now stands accepted, unless before then new evidence for their value becomes available. The Council discussed the available evidence for the value and rationality of a mixture of a barbital compound, marketed as such and found acceptable, with an analgesic such as aridopyrine, provided such a mixture is marketed under a name descriptive of its composition and the claims made for it are supported by acceptable evidence. The Council voted to recommend to the Board of Trustees that the distribution of New and Nonofficial Remedies to medical classes be resumed. It was decided to ask the general manager to mark distinctively in the American Medical Directory those journals which will promise to limit their advertising of proprietary medicines to those accepted for New and Nonofficial Remedies. The Council proposes to offer its cooperation with a view to examining all food preparations (except natural foods in their natural state) proposed for advertising in A. M. A. publications. The Council considered the question of the importation of non-narcotic drugs now barred by the Narcotic Drug Import and Export Act. *(Jour. A. M. A., April 28, 1928, p. 1377).*

EDITORIAL PARAGRAPHS

Adrenalin was isolated by Takamine in 1901.

The Wassermann reaction was first described in 1906.

The x-ray was discovered by William Conrad Roentgen in 1896.

Glycerin was discovered in 1799 by a Swedish chemist named Scheele.

The deaths from Tuberculosis have reached the low level of 87.1 per one hundred thousand.

The Pan-American Medical Association will hold its annual congress at Havana, from December 29 to January 3.

An English edition of William Harvey's "De Motu Cordis" is being published by Prof. C. D. Leake of the University of Wisconsin.

The Nebraska State Bureau of Health is authority for the statement that there were 194 fatalities in 1927 due to auto accidents.

Ligation of the angular vein for infections of the upper lip is recommended by Dr. C. A. Roeder, Omaha, in an article published recently in the *J. A. M. A.*

Vocational training of World War veterans came to an end July 1st. About 128,500 men were trained at an expense of $600,000,000, according to the Journal A. M. A.

Diphtheria Toxoid is a French product said to give satisfactory results in the prevention of diphtheria. The obvious advantage is said to be that it does not contain any proteid of any foreign animal species.

The Nebraska Bureau of Health reports for 1927, 27,866 births, 12,369 deaths from all causes and 170 puerperal deaths. Also 9,800 marriages and 1,620 divorces—an increase in divorces of the previous year of 226.

The articles of Dr. A. L. Smith, Lincoln; Dr. B. C. Russum, Omaha, and Dr. C. A. Roeder, Omaha, in the June *Nebraska State Medical Journal,* were abstracted in the *Journal A. M. A.,* for July 28, 1928, hence we rejoice.

Over six hundred cases of septic sore throat with thirty-one deaths occurred at Lee, Massachusetts during the early summer, says the *New England Journal of Medicine.* The origin of the disease was traced to the milk supply from one dairy.

Shelling and Cohen, (J. A. M. A., July 21), recommend 25 per cent solution of sodium or potassium citrate dropped in a line on plaster casts to facilitate removal. The cast is softened at once and can be easily removed with scalpel or cast knife.

"Tobacco and Women" is a fruitful topic just now. One authority declares that babies born of smoking mothers are sick at birth and rarely survive two years; another one says there is nothing to justify such a belief. Most of us would prefer the un-nicotinised baby.

Laboratory and clinical experiences seem to show that scarlet fever streptococcus antitoxin may be used in the treatment of erysipelas and this points to the proposition that it may prove valuable in all severe streptococcal infections, particularly in general septicemia, says the *New England Journal of Medicine.*

Interscholastic athletic contests in grade schools are ill advised, says a committee of the Omaha-Douglas County Medical society and the board of education is about to ban such contests. This should have been appreciated long ago, everywhere. Immeasurable harm has been done to growing children by these contests.

Dr. R. C. Coffey, Portland, Ore., announces that he is going to present to the Clinical Congress of Surgeons this fall his work on transplantation of the ureter into the large bowel. He invites the surgical profession to report to him the number of such operations performed and with what success, and with what difficulties.

In an address given before the American Chemical society, Dr. Ellice McDonald, chairman of cancer research of the University of Pennsylvania advanced the theory that cancer is due to a relative alkalinity of the blood; that a cancer cell is an ordinary body cell compelled to live in a wrong liquid environment—an excess of alkali and a low calcium content.

The cost of medical service is to be investigated by a committee of which Dr. Ray Lyman Wilbur is chairman. The investigation is to proceed from all possible angles and is expected to take five years to complete. The committee starts out with no theory, but will endeavor to trace facts and present them. The cooperation of the entire profession is needed and invited to contribute toward the solution of this problem.

The editor is pleased to announce the appearance in this and forthcoming numbers of the Journal of a series of articles on Practical Surgery, by the dean of the surgical profession of the state. These articles will be of moderate length and to the point. The author in a personal communication says, "The subjects I have in mind discussing are the everyday ones of our professional life—the more common ones which you and I, and a host of others, have been doing our best for during our professional life."

Considerable opposition has arisen from several sources against the dictum of the American College of Surgeons in the classification of hospitals, requiring monthly staff meetings, because it interferes with the regular attendance at county medical society meetings. The aims of the two are widely different. The staff meeting presumably discusses matters of hospital organization and the character and results of treatment at the institution. The county medical society takes up the scientific discussion of matters pertaining to the entire field of medicine, particularly those that concern the general practice of medicine.

The editor is reminded of an experience of the long ago in a dry and torrid September, with a year old infant with entero-colitis and convulsions presumably due to hyperpyrexia. In desperation the father was asked to bring home a hundred pound chunk of ice which was placed in a washtub in the sickroom and resulted in perceptibly lowering the room temperature. It was repeated daily during the illness. Another thing that was done in desperation in that case was the giving of one-fiftieth grain of morphine by hypodermic injection to quiet the child, and when the child recovered the people marveled at the strong constitution the child must have had.

REPORT OF THE COMMITTEE ON JOURNAL AND PUBLICATION

A resume of the finances of the Journal Fund for 1927 as taken from the printed report to the councilors shows the following:

Advertising space sold	$5,236.06
All other receipts	391.52
Share of dues allotted	1,780.50
Total receipts	$7,408.08
Total expense of Journal	6,818.68
Balance income over expense	589.40
Balance on hand Jan. 1, 1927	769.77
Total balance on hand Jan. 1, 1928	$1,358.17

In addition to this the Journal Fund has investments of $5,697.60 in three building and loan associations.

The Nebraska State Medical Journal endeavors to record the activities of scientific medicine in Nebraska in a manner, brief, interesting and comprehensive.

Volume XII of your Journal for 1927 presented 108 original, mostly, scientific articles, besides more than one hundred pages of editorial comment, dealing with matters of direct concern to medicine, items of medical society activities and human interest tales.

The importance of retaining complete files of the Journal is urged upon members. Whether fully appreciated at this time or not, they will in time become invaluable for reference on matters scientific and historical.

It is urged that each member should carefully and thoroughly, read each number of the Journal. The publication board takes the Journal very seriously and would like to have the same seriousness reflected in the reader. Comparison with the thirty other state medical journals is very complimentary to the Nebraska State Medical Journal.

The publication board asks for a continuance of an appropriation of $1.50 per member for the ensuing year.

—F. A. Long, Chairman Publication Board.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

The Medical Society of the Missouri Valley meets in Omaha October 30th and 31st and November 1st. Dr. Fred Smith, Professor of Medicine of the University of Iowa is the President.

A re-organization of this medical society was accomplished at the Des Moines meeting last year. The objective of this association as stated in the new Constitution is as follows: "The object of this Association shall be primarily educational. It shall give opportunity to the faculties of the Universities of the District, to members of the Association and to invited guests to present such work as will tend to place the practice of medicine in the district on a higher scientific plane."

A program will be provided this year which is in keeping with the above stated purpose of the society. It will consist of papers, addresses and clinics. Among the invited guests who have places on the program are Dr. B. J. Clawson, Assistant Professor of Pathology, University of Minnesota; Dr. J. B. Herrick, Professor of Medicine, Rush Medical College; Dr. M. L. Harris, President of the American Medical Association; Dr. A. C. Ivy, Professor of Physiology, Northwestern University Medical School; Dr. Carl R. Moore, Professor of Biology, University of Chicago; Dr. F. C. Mann, The Mayo Foundation, and Dr. Leonard G. Rowntree, the Mayo Clinic. There will be other invited guests of note. The subject matter to be presented by members of the Association promises to be unusually rich.

The meetings of the society are open to the practitioners of the district. A registration fee of two dollars will be charged, which fee includes the annual dues.

It has been the opinion of some of those interested that a society with the above objectives could be made an educational force of great value. The enlisting of the Universities of the District should be of great benefit to all of us, and should insure good programs and enlightened management. It should give the practitioners an opportunity to meet and know the men who influence to a great degree medical education and medical progress in the region. This contact should be advantageous to both practitioner and teacher.

The medical profession decides by its presence or absence whether the society shall continue.

ENSWORTH-CENTRAL-NORTHWESTERN MEDICAL COLLEGE ALUMNI ASSOCIATION

The fourth annual meeting and dinner of this Association will be held in St. Joseph Thursday evening, October 11, following the Clinical Conference in Kansas City, October 9 to 11. Clinics, Friday, October 12, at local hospitals. The Secretary is very anxious to have a much larger attendance than last year, and for this reason is anxious to have enrolled all of the graduates of Northwestern-Ensworth-Central Medical Colleges. We should have an attendance of 300 at the next meeting. All-day clinics will be held in hospitals. The professors in the three colleges are eligible to membership and urged to attend. The dues are only $1.00 per year, including the Medical Herald, which contains all the news of the Association. All graduates are urged to send their names to

Leroi Beck, M. D., President, St. Joseph, Mo.
Charles Wood Fasset, M. D., Secretary, 115 East 31st St., Kansas City, Mo.

AMERICAN COLLEGE OF SURGEONS

The American College of Surgeons will hold the eighteenth Clinical Congress in Boston October 8-12. Headquarters will be at the Statler Hotel and meetings will be held in the ballroom of the Copley-Plaza Hotel and Symphony Hall. The Hospital Standardization Conference will be held in the morning and afternoon sessions in the ballroom of the Copley-Plaza Hotel Monday, Tuesday, Wednesday and Thursday. An innovation this year will be the commencement of the clinics in the Boston hospitals on Monday afternoon, continuing through the mornings and afternoons of the following four days. Monday evening's program will include an address of welcome by the local Chairman, the address of the retiring President, Dr. George David Steward, New York, the inaugural address of the new President, Dr. Franklin H. Martin, Chicago, and the John B. Murphy oration in surgery by Professor Vittorio Putti of Bologna, Italy. Tuesday, Wednesday and Thursday evenings' sessions will be held in the ballroom of the Copley-Plaza Hotel. At the Wednesday evening meeting the visiting surgeons will be the guests of the Boston Surgical Society at a special meeting when the Bigelow medal is to be awarded. On Friday evening the annual Convocation of the College will be held in Symphony Hall when the 1928 class of candidates for Fellowship in the College will be received. The fellowship address of this evening will be delivered by Dr. William J. Mayo. The annual meeting of the Governors and Fellows will be held Friday afternoon and will be followed by a symposium on Traumatic Surgery to be participated in by leaders in industry, labor, indemnity organizations and the medical profession. Ether Day will be celebrated in the Dome Room of the Massachusetts General Hospital on Friday when a bronze bust of William T. A. Morton will be presented to the hospital. It was in this building that ether was first administered for the production of surgical anaesthesia on October 16, 1846. Several newly completed medical motion pictures produced under the supervision of the American College of Surgeons and approved by it will be shown during the Congress. Reduced fares on the railways of the United States and Canada have been authorized to those holding a convention certificate so that the total fare for the round trip will be one and one-half the ordinary first class one-way fare. Other outstanding features will be the exhibits. In addition to the commercial exhibits the departments of the College will present scientific exhibits. A number of distinguished foreign guests of international reputation have signified their intention of attending. The Chairman of the Boston Committee on Arrangements is Dr. Frederic J. Cotton.

NEBRASKA STATE BUREAU OF HEALTH—DIVISION OF VITAL STATISTICS

Causes of Death:	1922	1927
Typhoid and Paratyphoid Fever	52	36
Scarlet Fever	54	18
Measles	30	71
Mumps	0	5
Malaria	1	1
Small Pox	9	1
Whooping Cough	18	50
Diphtheria	129	46
Influenza (All Forms)	312	339
Erysipelas	51	34
Acute Poliomyelitis	3	22
Lethargic Encephalitis	15	6
Meningoccus Meningitis	3	7
Tetanus	6	8
Tuberculosis (All Forms)	481	400
Syphilis	77	54
Gonococcus Infection	1	12
Purulent Infection, Septicemia	78	38
Cancer (All Forms)	1127	1257
Diabetes Mellitus	302	273
Pernicious Anemia	98	76
Alcoholism (Acute or Chronic)	22	19
Meningitis, Simple and Cerebrospinal	42	26
Cerebral Hemorrhage, Apoplexy	773	1266
Endocarditis and Myocarditis (Acute)	183	99
Angina Pectoris	117	186
Other Diseases of the Heart	1061	1840
Arteriosclerosis	332	170
Embolism and Thrombosis (Not Cerebral)	33	78
Bronchitis (All Forms)	67	36
Pneumonia (All Forms)	1125	769
Ulcer of Stomach and Duodenum	55	73
Diarrhea and Enteritis	302	206
Appendicitis	265	223

Hernia and Intestinal Obstruction	187	157
Nephritis (Acute and Chronic)	716	648
Diseases of the Prostate	94	103
The Puerperal State	185	170
Senility	449	215
Early Infancy—		
Congenital Malformations	560	155
Cong. Debility, Icterus and Sclerema	183	83
Premature Birth	502	464
Injury at Birth	77	107
Suicides (All Forms)	154	197
Homicides (All Forms)	56	48
Automobile Accidents	147	194
Railroad Accidents	53	53
Street Car Accidents	5	5
Aeroplane and Balloon Accidents	2	3
Excessive Heat	6	9
Excessive Cold	0	3
Legal Electrocution	1	2

HUMAN INTEREST TALES

Dr. W. A. Cate, Nelson, has been ill lately.

Dr. Eric Pfeiffer has moved from Steele City to De Witt.

Dr. G. E. Peters, Randolph, is erecting an office building.

Dr. and Mrs. J. W. Stockman, Red Cloud, have gone to Europe.

Dr. Katharine Polly, Denver, visited her brother at Eagle, recently.

Dr. J. E. Cummings, Alma, has gone to Boston for postgraduate work.

Dr. C. E. Rice, Odell, is about to erect a combined office and residence.

Dr. F. J. Despacher and wife, Omaha, have been to the Minnesota lakes.

Dr. Einer Norberg and Miss Ida Marie Hull, Wahoo, were married recently.

Dr. F. J. Casey and Miss Claire Dwyer, Omaha, were married recently.

Dr. and Mrs. C. H. Campbell, Columbus, enjoyed a trip to Alaska, recently.

Dr. R. E. Roche, Sidney, spent some time in Rochester at the clinic last month.

Dr. A. G. Carroll and Miss Augusta A. Shields, Bellwood, were married July 10.

Dr. Donald Burdick, David City product, has located in "the old home town" to practice.

Dr. D. C. Walker, Lindsay, suffered the loss of a forearm, supposedly a result of x-ray burns.

Dr. F. P. Dorsey, Jr., Hartington, has become associated with his father in the practice of medicine.

Dr. R. H. Easton has sold his office and equipment at Eustis and will be succeeded by a Dr. O. P. Roseneau.

Dr. and Mrs. J. M. Patton, Omaha, have been touring western Europe and looking in at the famous clinics.

Dr. C. A. Pierson, Beemer, has remodeled a residence property into a combined office and emergency hospital.

Dr. and Mrs. C. D. Barnes, Tecumseh, returned in mid-July from a six weeks' motor trip through parts of the South.

A sneak thief, making a specialty of physician's offices, was heard of at several places along the Union Pacific last month.

Dr. W. J. Conner, Petersburg, had a vacation trip through northern Minnesota, the Black Hills, Wyoming and Colorado.

Dr. John R. Nilsson, Omaha surgeon, has succeeded Dr. A. F. Jonas, retired, as chief surgeon of the Union Pacific railroad.

Dr. A. J. Stewart, formerly of Mitchell, of recent years in medical missionary service in China, has located in Berkeley, Calif.

Dr. Dee L. Abbott formerly of Alma, has located at Sidney, occupying the offices formerly occupied by the late Dr. Harry Mantor.

Dr. Glen S. Everts, Lincoln and Miss Fara Mae Biddle of Harrisburg, Pa., were married recently. They will live at Philadelphia.

Fifty-six physicians passed the state board examination and were granted licenses to practice, thirty-seven of whom were from Omaha.

Dr. J. Blaine Babcock is acting superintendent of the Hastings State Hospital since the death of Dr. G. M. White, former superintendent.

The marriage of Dr. Ted E. Riddell, Scottsbluff, and Miss Marrian Gilligan, daughter of Dr. and Mrs. J. P. Gilligan, O'Neill, is announced.

Dr. Harold Gifford, Omaha, was a guest of honor at the annual meeting of the South Dakota State Medical Society at Hot Springs last month.

Dr. A. E. Cook and wife, Randolph, spent some time in the Minnesota lake region last month. Meanwhile Dr. Stuart Cook, son, attended to the practice.

Dr. A. J. Edstrom, Stromsburg, suffered severe bruises and cuts in an auto turnover the last of July. Last year the Doctor suffered a brain injury in an auto wreck.

Dr. J. C. Thompson, professor of internal medicine at the Washington University, St. Louis, spoke on "Disease of the Blood," before the Richardson County Medical society, at Falls City, August 31.

Dr. C. A. Roeder, Omaha, appeared on the program of the Idaho Medical Society at Yellowstone Park August 29, with a paper on "A Postoperative Review of One Thousand Operations for Goiter."

NECROLOGY

J. H. Thompson, Monroe, Nebr.; McGill University, 1888; formerly physician at Elgin and Albion; resident of Monroe for fifteen years; not in practice; former member, Nebraska State Medical Association; died following an accident, being struck by a train while attempting to cross track in auto, July 30, aged sixty-nine years.

G. M. White, Hastings, Nebr.; Syracuse University College of Medicine, 1896; superintendent, Hastings State Hospital, since 1926; formerly assistant physician at the same institution; sometime engaged in institutional work in California; member, Nebraska State Medical Association; died rather suddenly, July 28, 1928, aged about sixty years.

The Adams County Medical Society passed the following resolutions: "Whereas the great forces of nature and the will of the almighty and omnipotent ruler of the universe have taken from our midst our brother and friend, Dr. G. M. White, and

Whereas, he was an active and useful member of the National, State and Adams County Medical Societies, loved and honored by all the physicians of the State, therefore be it

Resolved, That we the members of the Adams County Medical Society now assembled extend to the bereaved family of Dr. White our condolence, sympathy and love in this their hour of grief. May the Father of Life shield and protect the widow and daughter of our beloved brother during all of life's journey."

THE BLACKSMITH AND GARAGE

"Under the spreading chestnut tree,
The village smithy stands.
The smith, a mighty man is he,
With strong and sinewy hands."

So ran the poem fifty years ago—but today, it is likely to go:

"Under the spreading chestnut tree,
The village garage stands.
The owner, a wealthy man is he,
With diamonds on his hands."

THE DOCTORS

Nowadays there's little meaning
For a person to be gleaning
When a man attaches "doctor" to his name—
He may be a chiropractor,
Or a painless tooth extractor—
He's entitled to the title just the same.

Or perhaps he is a preacher
Or a lecturer or a teacher,
Or an expert who cures chickens of the pip;
He may keep a home for rummies,
Or massage fat people's tummies,
Or specialize in ailments of the hip.

Everybody is a "doctor,"
From the backwoods herb concocter
To the man who takes the bunion from your toes;
From the frowning dietitian
To the snappy electrician
Who shocks you loose from all the body's woes.

So there's very little meaning
For a sufferer to be gleaning
When a man attaches "doctor" to his name.
He may pound you, he may starve you;
He may cut your hair or carve you;
You may have to call him doctor all the same.
—Stoddard King, in Salt Lake Tribune.

FATE

Two shall be born, the whole wide world apart,
And speak in different tongues and have no thought
Each of the other's being, and no heed.
And these, o'er unknown seas, to unknown lands
Shall cross, escaping wreck, defying death;
And all unconsciously shape every act
And bend each wandering step to this one end—
That, one day, out of darkness they shall meet
And read life's meaning in each other's eyes.

And two shall walk some narrow way of life
So nearly side by side, that should one turn
Ever so little space to left or right,
They needs must stand acknowledged, face to face,
And, yet, with wistful eyes that never meet
And groping hands that never clasp, and lips
Calling in vain to ears that never hear,
They seek each other all their weary days
And die unsatisfied—and this is Fate!
—Susan Marr Spalding.

TO THE MEDICAL AND SURGICAL PROFESSION

The SYSTEM OF CAMP PHYSIOLOGICAL SUPPORTS is now used and highly endorsed by many doctors and surgeons in all parts of the world. This system is no doubt familiar, in name at least, to many others who have not yet investigated its merits, but who need efficient supports in their practice and would be interested and glad to learn of a thoroughly competent, practical line of wearable garments—quickly available.

We are presenting them in separate illustrations and brief descriptions through this and other well known Medical Journals in a series of advertisements showing the varied character of designs.

Camp supports embrace a full line of (typed to figure) maternity and convalescing garments. They also cover a wide scope of post operative supports, and supports for specific uses as aids in treatment of ptosis, hernia, sacro-iliac sprain, and spinal diseases.

All of these garments are to be found in surgical houses and high class department stores in the corset section, where a surgical service is established with trained fitters in attendance. Full information may be obtained by writing to S. H. Camp and Company, Manufacturers, Jackson, Michigan. They will be glad to send an instructor, a trained nurse, to demonstrate the full line of models and explain their uses to you.

MAKING A DOCTOR FIFTY YEARS AGO

In the olden days the problem of medical education was solved in a very simple manner. The prospective physician merely apprenticed himself to some medical celebrity and then proceeded to prosper for a variable length of time on warmed over gruel and the crumbs from the doctor's table. Meanwhile he pursued a rather haphazard course of study which made him an ex-officio party of the first part to whatever was perpetrated in the name of medical practice in the neighborhood. With the passing of time he might expect to awake some day to find himself the doctor of the community by reason of his mentor's demise. In instances where the old doctor lacked sufficient sportsmanship to die, there remained but one course for the apprentice to pursue and that was to move to a less densely populated portion of the countryside. There, in the hinterland, a new shingle was raised and for all practical purposes another doctor had been born. Those who deemed it their duty to spend more time in preparation for such arduous tasks as country practice involves, supplemented this personal instruction with a visit to the leading clinics of some nearby large city. At the time we are speaking of this meant New York, Philadelphia, Boston or Baltimore. Such was the state of medical education in this country only a little more than a half century ago.

ON SECOND THOUGHT

Doctor: "Nothing but an operation will save your life."

Patient: "And how much will that cost?"

Doctor: "About five hundred dollars."

Patient: "But I only have a hundred dollars."

Doctor: "In that case, let us see what pills will do."—Annapolis Log.

THE NEBRASKA STATE MEDICAL JOURNAL

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BRAIN ABSCESS OF THE TEMPORO-SPHENOIDAL LOBE AND CEREBELLUM, WITH COMMENTS ON OPERATED CASES*

JNO. B. POTTS, M. D.,
Omaha, Nebr.

About fifty per cent of all brain abscesses are secondary to infection of the middle ear and mastoid. A few abscesses are metastatic, but the majority are by direct extension or by infection along some blood vessel. Hence, the most common locations of abscesses from the ear and mastoid are in the temporosphenoidal lobe and cerebellum. Chronic infections of the mastoid are responsible for more abscesses than acute, and incidentallly practically every so-called running ear, both acute and chronic, is associated with a mastoiditis.

The early diagnosis of brain abscess depends upon the physician in charge being alert to the complications which may arise, and recognizing the signs and symptoms when they appear. Extensive and expensive equipment is not nearly as important as careful observation and clear thinking. The x-ray is usually of little value and the ophthalmoscope not so important as often stated. A choked disc is often not present with temporal lobe abscess, and vice versa, is usually present in cerebellar abscess but a late manifestation.

Some of the symptoms stressed in our text books are terminal ones and not seen in abscesses diagnosed relatively early. The general symptoms are:

1. Debility.
2. Malaise.
3. Headache.
4. Fever.

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

5. Chills.
6. Sweating.
7. Vertigo.
8. Vomiting.
9. Visual Disturbances—Nystagmus, Ocular Palsies, Choked Disc, Visual Fields.
10. Change in Disposition.
11. Lowered Cerebration.
12. Slow Pulse. Bradycardia.
13. Sub-normal Temperature.
14. Convulsion.
15. Pulse Pressure.
16. Blood Pressure—W. B. C.
17. Spinal Fluid.
18. Ataxic Gait.
19. Labyrinthine Reaction—Caloric; Turning.

One of the early symptoms is a fever and chill. This is frequently the reaction from the invasion of the cranial cavity by the infection. Following this the patient does not do well, he frequently has a sense of uneasiness and loss of well being. He suffers from inability to concentrate and often although apparently well physically, cannot carry on his work. Headache is a very frequent symptom. Fever is usually only present in the initial and terminal stages. Chills and a chilly sensation are relatively constant. Vertigo and vomiting are usually present. Vomiting is an especially important symptom and care must be had not to be led to a false diagnosis of stomach disorders because of it. The eye symptoms are the result of pressure, and double vision, nystagmus and choked disc are important indications of intracranial pressure. The visual fields are not only an indication of pressure but of localizing value as well. A change in the disposition and mental attitude is sometimes an important and early sign of tumor or abscess. Lowered cerebration is usually progressive with the disease. Slow pulse is one of the most bizarre and important symptoms. It is apparently due to some toxic effect of the abscess as it is very constantly present with the brain abscess and seldom with tumor. However, it is not constantly present but on the contrary is frequently only found for a relatively short time during the day or every several days. A drop of the pulse in a suspected case, -55 or below, is most significant of brain abscess. Convulsion secondary to infections of the head are practically pathognominic of invasion of the cranial cavity. The white blood count is usually low. Spinal fluid pressure varies greatly. There is usually only a small increase in the cells. The ataxic gait is as important as it is apparent.

The localization of an abscess is frequently much more difficult than detecting its presence. In temporal lobe the following symptoms are of help:

1. Active labyrinth.
2. Aphasia—a. Word sound; b. Auditory meaning.
3. Muscle spasms of opposite side.
4. Muscle paresis of opposite side.
5. Homonomous hemianopsia.
6. Deafness.
7. Dilated pupil of same side.
8. Ptosis of same side.
9. Pain over temple.
10. Reflexes.

An active labyrinth is more often present in temporal lobe than cerebellar abscess. Aphasia is a most valuable sign, indicating temporal lobe abscess on the left side in a right handed person and vice versa. All these signs depend upon the pressure from the abscess and hence vary from day to day and from hour to hour. Homonomous hemianopsia is often present early and is almost positive evidence of localization in the temporosphenoidal lobe. It is due to an involvement of the association fibers running from the cortical optical center in the cuneus to the geniculate bodies (Myer's tract), which pass through the temporosphenoidal lobe. (Eagleton, Brain Abscess, 1924, p. 180)).

Tendon reflexes increased. Babinski and Oppenheim signs may be present.

The symptoms pointing to a cerebellar abscess are:

1. Inactive labyrinth.
2. Thrombosis of lateral sinus.
3. Static imbalance—Incoordination, Ataxia, Past pointing.
4. Adiadochokinesis.
5. Posture.
6. Vomiting.
7. Nystagmus.
8. Vertigo.
9. Transientness and variability of signs.
10. Occipital headache.

Inactive labyrinth.—Many cerebellar abscesses originate by infection from the dead labyrinth or infected lateral sinus.

The cerebellum is the coordinating center of the brain, hence any evidence of incoordination points strongly to the cerebellum. Common tests are pointing hands and feet, finger to finger, finger to nose, pronating and supinating the hands simultaneously (Adiadochokinesis). The posture assumed in bed or sitting. Nystagmus is most often vertical in cerebellar abscess. Vomiting is often present and may be projectile in type. On account of the ability of the cerebellum to compensate all symptoms are liable to be very transient.

In reviewing five cases seen last year, the high points serve to illustrate the practical points in diagnosis.

Case 1. M. T. Brought into hospital in coma. History: About six months previously had scarlet fever, right otitis media and mastoiditis—operation, recovery. Three weeks ago suddenly had fever from 103 to 104, vomiting and right-sided headache. Following this he did not do well. For past few days was stupurous. Had double vision. Right hemiplegia. Left-sided clonic contraction. Choked disc, bilateral. Spinal puncture increased pressure; 25 cells to a cubic millimeter.

Present examination: Boy, 12 years old, in coma. Temp. 100, P. 72, Resp. 20. General physical examination negative. Pupils, right large, choked disc—right 4. D., left 3. D. Babinski, bilateral. Ankle clonus, bilateral. Knee jerks present, bilateral. White blood count 7,600. Pulse 62. L. 38. Diagnosis, right temporal lobe abscess.

Basis of diagnosis: Sudden onset. History of ear infection, fever, vomiting, right-sided headache. Later, stupor, double vision, right hemiplegia, left clonic contraction, large right pupil, choked disc, coma.

Operation: Large temperosphenoidal lobe abscess. Drained. Recovered.

Case 2. John H. History: Had operation for acute mastoiditis fifteen months ago. Never healed. Ear and mastoid fistula, purulent discharge. General condition fair. Attending school.

Operation (June 20, 1927): Mastoid re-opened. Some dead bone, pus and granulations back of antrum.

Post-operative: Headache every day. Temperature 99 to 101. July 1 and 2—Temperature and pulse normal, still had headache. July 3—Vomited. Listless. Pulse 60. Temperature 98. July 4—Fair day. Pulse did not go lower than 70. July 5—Pulse 52. Choked disc. Vertical nystagmus. Mentally clear. Right facial weakness. Slow pulse.

Diagnosis: Right cerebellar abscess.

Basis of diagnosis: Vomiting. Choked disc. Vertical nystagmus. Right facial weakness.

Operation: Right cerebellar abscess drained. Died.

Case 3. W. R. Age 19 years. Entered hospital October 5, 1926. Past History: Discharging ears—right ear six years, left two years. General condition good. Conservative treatment and observation. For two weeks seemed to be improving but had occasional temperature rise of 99½ to 100. Pulse, low 64, high 80. Right ear became dry. October 18—Some headache over left eye. Dizzy. October 19—Nauseated. Temperature 100. October 20—Vomited twice. Headache. October 21—Felt better during the day. About 10:00 p. m. vomited and was semi-delirious. October 22—Stuporous. Mentally dull. Pulse 60. Polys. 80. L. 20. W. B. C. 10,500. Vomited. Dizzy. Headache. Fundus normal, bilateral. Sensory aphasia. Cannot name pin, dollar, etc., when held in his hand. Suggestion of paraphasia. Makes some mistakes in reading. Miswrites "fine" in "This is a fine day."

Diagnosis: Left temporosphenoidal lobe abscess.

Basis of diagnosis: Headache. Dullness. Vomiting. Pulse. No choked disc. Aphasia. Slow pulse.

Operation: Drained abscess of left temporosphenoidal lobe. Recovered.

Case 4. M. M. Age 10 years. Entered hospital November 21, 1927. History: Three weeks ago had the flu. Pain in right ear. Vomiting. Not much nausea. On the third day the right ear began to discharge. Better for a time then headache and vomiting.

Present examination: Purulent discharge from right ear. Mentally bright. Lowest pulse 60. Facial movements normal. Disadiadochokenesis of right hand. Past points with right foot. Left ankle jerks most active. Choked disc 2½ D. bilateral. W. B. C. 15,300. P. 60. L. 40.

Diagnosis: Right cerebellar abscess.

Basis of diagnosis: Purulent discharge from right ear. Dis-adiodochokenesis of right hand. Ataxia. Choked disc.

Symptoms against diagnosis of cerebellar abscess: Absence of mental hebetude. Hemianopsia. Aphasia. Left-sided paralysis.

Operation: Drained abscess of right cerebellar lobe. Recovered.

Case 5. F. P. 4½ months old. Entered hospital June 15, 1927. History: Had discharging right ear for a short time in February, 1927. About two weeks ago ear began discharging again. Followed by headache, elevated temperature and tenderness over mastoid.

General examination negative. Temp. 99.8. Pulse 72. Resp. 18. Urine normal. W. B. C. 1,700,000. Polys. 82. L. 16. R. B. C 4,750,000

Mastoid operation, June 16, 1927: Did not do well following the operation. Temperature 99 to 105. Culture from mastoid, staphylococcus. Blood culture, staphylococcus albus.

June 17, 1927: Lateral sinus thrombosis. Sinus evacuated. Jugular vein tied. Following this the temperature was lower but he continued to do poorly. Very irritable, frequent profuse sweating, headache.

June 20, 1927: Eyes, disc margin indistinct. No swelling.

June 21, 1927: Right-sided headache. Mentally clear. Does not cooperate for examination. Positive ankle clonus of right side. Knee jerks exaggerated. Pulse, relatively slow. (June 18, Temp. 104.6. Pulse 100. June 19, Temp. 99. Pulse 64). At times sleep almost stuporous.

Diagnosis: Prabably brain abscess, right cerebellar.

Basis of diagnosis: Slow pulse. Headache. Ankle clonus. Diaphoresis. Stuporous sleep. As he had a thrombosed sinus, the abscess was most likely cerebellar.

Operation: Exploration of cerebellum. Abscess located just posterior to and below knee of lateral sinus. Drained. Recovered.

RESUME

The general condition of the patient in each case was indicative of some serious condition. The pulse was slow or relatively slow in each case at some time during the course of the disease. Not many symptoms were present at any time. Spinal punctures were not done as a routine on account of the danger and because it was not necessary. Not much rise of temperature was present in four cases.

The pressure from a brain abscess may be delayed on account of the infection destroying the brain tissue and pressure does not develop until it is more or less walled off.

If an abscess is strongly suspected but the localization is in doubt, an exploratory puncture of the brain adjacent to the middle ear and mastoid is justifiable.

The point I wish especially to emphasize is that most of the important signs of otitic brain abscess are known to all of us and the diagnosis while not easy is a plain practical problem that can be solved by the general physician.

DISCUSSION

J. M. PATTON, M. D., (Omaha): I think we will admit we have trouble enough diagnosing these brain abscesses with all the help we can get. Dr. Potts has mentioned a number of eye signs present more or less constantly in these conditions. He did not emphasize how easy it is to recognize those signs. There was a time they were almost a matter of magical discovery. They have been so thoroughly understood that any of us can observe them, if we will think to do it.

Sometimes we get the idea the eye is a particular field and we do not know anything about it, so we pass it up. That is unnecessary. We can discover the pupil signs and the anomalies of muscle motions. You can determine whether there is a disturbance of the visual field.

You naturally think you must have a lot of fussy apparatus and charts and colors, but it is not true. You can easily determine with your fingers, if necessary. The color fields are more easily distinguished than the form fields. Mount a red or green card on a piece of wire and find out whether there is a contraction of the field as compared with your own. The older ophthalmoscope was hard to use. With the modern fool-proof machines you can get for $25 any one can see an optic disc as easily as you can tell whether the drum head is normal or not.

There is no excuse for us as general practitioners to pass up these important signs and to diagnose these conditions. These patients die without our knowing what the trouble is. If we can keep them here, it is up to us to do the best we can. By observing some of these simple diagnostic signs easily recognized, I think we shall do it.

F. B. YOUNG, M. D., (Gering): A short time ago we had a patient in the hospital—a woman about fifty-two years of age who had no history of any traumatism about the head, or running ears, or anything of that type. She became ill some three weeks prior to the time she came under my care. She consulted a physician, but did not think she was sick enough to stay under his care. She treated herself three weeks.

Suddenly one morning at five o'clock she began to vomit. That night she went into coma. She had disturbance of all the reflexes. Within sixty hours she was dead. The diagnoses varied. My first diagnosis was uraemia, but her low blood pressure and the urine findings changed that. The second diagnosis, made at the time of her death, was epidemic encephalitis. A postmortem showed a temporosphenoidal abscess, chronic in character. It had given so little trouble she had not thought it necessary even to consult a physician during the time of its development.

This case impressed us with the fact that serious intracranial lesions may exist for a long time in a quiescent state and cause but few symtoms and little distress to the patient.

H. W. BENSON, M. D., (Oakland): I want to say a word of appreciation for this splendid paper and Dr. Patton's remarks.

It was my misfortune some twenty-five years ago to have a series of cases of this kind. There were two about whom I felt real badly. The first case was properly diagnosed and ready to be operated, when suddenly she had a hemiplegic attack, and within twelve hours, died. I did a postmortem and found this particular condition—a long-standing otitic infection. That is a point that should be stressed in the care of these cases of long-standing running ears.

The second case unfortunately was not properly diagnosed. It was diagnosed as gallbladder and operated, and died. In that case I did a postmortem and found a temporosphenoidal abscess of the brain.

I think a paper of this kind before general practitioners has some striking points for which we should be on the lookout. If we feel we are not capable of discovering it ourselves, it is a simple matter to have somebody help us out. We can do the simple tests if we will take more time to look at normal eyes.

PRACTICAL SURGERY

JOHN E. SUMMERS, M. D.,
Omaha, Nebr.

GAS GANGRENE

Gangrene, as a complication of wounds of all kinds, particularly those of the extremities of a crushing or devitalizing type, has always been recognized as a serious condition, and in preantiseptic days before surgical cleanliness was practiced in hospitals, it not infrequently appeared in epidemic form and was known as hospital gangrene. It more often developed in military hospitals during crowded conditions, but some of the worst epidemics occurred in civil hospitals in foreign countries, France especially, and the mortality in many instances was exceedingly high. Of course, these epidemics, as we understand today, were due to infections of specific organisms, the infections being transferred by some one of many ways from the wound of one patient to that of another. We do not know the bacteriology of hospital gangrene but it was probably due to some kind of mixed infection, possibly of germs which have died out or lost their virulence. In history there is no emphasis placed upon the presence of gas in the tissues of hospital gangrene so we are justified in assuming that its bacteriology differed from that of gas gangrene which is an anaerobic infection.

Before the late war there was little real knowledge of gas gangrene although Welch of Baltimore, had proven that an organism B. aerogenes capsulatus was one of the causes of the disease. Several other anaerobes were more or less constantly found as accompaniments of the Welch bacillus and seemingly added at times a marked virulence to the affection.

The organisms responsible for the disease are introduced into wounds by contamination from fecal fertilized soil, and in civil practice are most often complications of out-of-doors accidents in which there has been a greater or less laceration of tissues often complicated by bone fractures. The National Research Committee (British) whose investigations probably give us the most advanced information, recognize clinically five varieties of the disease:

1. Localized anaerobic infection in the wound.
2. Slowly spreading anaerobic infection in the wound.
3. Gas gangrene of the "group" type when a single muscle or a group of muscles is attacked.
4. Gas gangrene of the massive type where a whole segment of a limb is involved.
5. The fulminating type.

A narration of several of my personal experiences may be instructive, and coincidentally they began with type 5.

A woman, as the result of a street fall, suffered a compound fracture of the lower third of the tibia. The wound of the soft parts was a small one and there was no fragmentation of the bone. She was a patient of Dr. A. W. Edmiston, Omaha. The wound was painstakingly taken care of by the doctor and myself, the fracture adjusted, and suitable dressings and splints applied. At the end of twenty-four hours the limb began to swell, gas crepitation rapidly developed, spreading up the thigh. The temperature was high, the pulse fluttering. As the gas ascended the limb below became cold. In another twenty-four hours the woman was dead. I viewed the body at the undertaker's a few hours after death: The whole body, including the neck and face, was bloated with a gaseous oedema. It looked like a "floater" (the body of a drowned person taken from the water ten days to two weeks after the drowning).

Case 2: A young man fell from a wagon on a street of Avoca, Iowa, and suffered a compound fracture of the lower end of the femur involving the knee joint. He was taken care of properly by his physician, Doctor Spaulding. Twenty-four hours after the injury the wound looked angry; gas was bubbling between the edges of the partly sutured wound. There was a scanty sour-smelling discharge. The patient was sent to me at the Clarkson hospital. He was suffering a great deal of pain, looked ill and had a temperature of 103 degrees F., pulse 110. On removal of the stitches all of the more or less lacerated muscles had a dirty red appearance, and gas was bubbling from them. I amputated the thigh, middle third, left the flaps open for drainage, the man recovered.

I have seen and had under my care a number of somewhat similar cases. Those referred to as happening in the University hospital were of interest

One, on my service, a compound, comminuted fracture of both bones of the forearm of a young woman, was first admitted thirty-six hours after the accident. Gas was bubbling from the torn, lacerated muscles. Her constitutional symptoms were not very serious. I ordered tentatively, 30 cc. of a 1% solution of mercurochrome given intravenously. Tincture of iodine was poured into the wound. The gangrene seemed to be in abeyance, but twenty-four hours later the hand was swollen and the wound looked dangerous. My judgment was that it was safer to amputate than to run any further risk, as the future usefulness of the hand and forearm was almost hopeless. A semi-guillotine amputation through the lower third of the arm was followed by a rapid convalescence.

Two of the other cases were seen by me in consultation and the treatment followed accorded with my suggestions. One, a woman, was admitted two days after suffering a compound fracture of the astragalus. She was very ill; gangrene had extended one-half way up the leg; there was gaseous crepitation. The thigh was amputated by Doctor Johnson, lower third, open flaps for drainage. There was a prompt betterment in the patient's general condition and a rapid convalescence.

In the case of the re-amputation of the leg for a painful stump the gangrene spread rapidly up the thigh; crepitation was marked. Liberal deep incisions were made but they failed to stop the spread of the infection which seemingly involved all of the muscles. Death soon ensued.

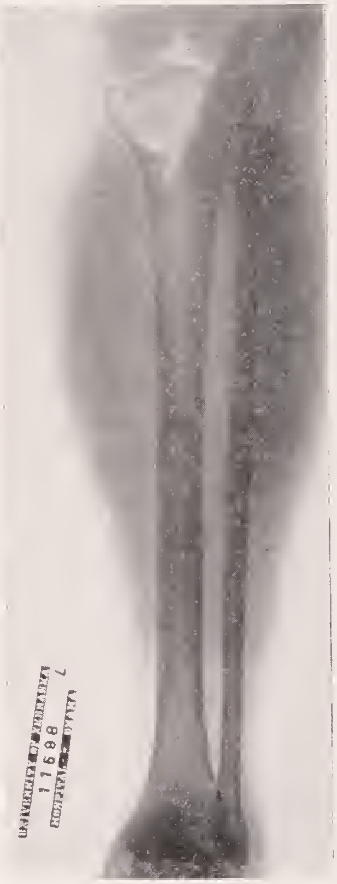
The other case was on my service and was properly taken care of by Doctor John R. Nilsson. Long, deep, well-placed incisions with the wounds kept open for drainage stopped a very threatening gas gangrene infection of a lacerated wound of the leg resulting from a fall upon a picket fence. A skiagram had shown the gas to be more widely advanced than palpation indicated. It may be noted that when available a skiagram should be taken as it is of value in better pointing out to the surgeon the extent of the invasion. This practice has not been given its proper value as to therapy and prognosis, and I want to call particular attention to it. In gas gangrene the skin at first may show little change, later it becomes purplish. The gas spreads between the inter muscular planes. As the connective tissue and muscles become involved they tend to break down; a yellowish band marks the line of progress of the extending infection as the reddish infected muscle progressively breaks down in its progress upward toward the trunk.

When a single muscle or group of muscles is involved free incisions or, if possible, an excision of the muscle or group may stop the infection.

When there is a localized infection the area involved should be excised *en bloc*, and the remaining wound well washed out with peroxide of hydrogen or a strong solution of permanganate of potash, because of their oxidizing properties, and the wound treated antiseptically. I am a firm believer in early amputation unless there seems a fair chance by free incisions or excisions to stop the invasion. The amputation should be of the open flap kind, taught by our early predecessors—Baron Larry, Napoleon's Military Surgeon, among others.

The constitutional symptoms are seldom other than serious after the disease is at all advanced. Pain is marked although the limb is partly numb. It gradually becomes cold. The patient is ill, the pulse-rate and the temperature are both much above normal. The pulse becomes rapid, soft and running, the temperature advances; vomiting is rather constant and the patient dies; the mind may remain clear.

Possibly, let us say hopefully, a recently prepared antitoxin may change the prognosis of this serious affection. During the War antitoxin sera were used by both the French and British surgeons as prophylactic and therapeutic measures: The British used a B. Welchii and vibrion septique sera. The French used an anti-Welchii, anti-vibrion septique and an anti-oedematien serum. Sir Cuthbert Wallace says the French attached more value to their serum than did the British. It was seemingly helpful. An antitoxin (perfrigerens antitoxin) is now prepared and is reported to have been helpful therapeutically, and perhaps positively curative in several cases of gas gangrene. Enough so that it must be recommended. Recent experiences with the use of the same antitoxin have apparently been helpful in reducing the mortality in a considerable number of cases of appendicitis of the gangrenous type, also in reducing the toxaemia post-operative of intestinal obstruction. In the prevention of gas gangrene it may, and I think should be used as a prophylactic measure, as is so successfully the antitoxin for the prevention of tetanus, both infections being anaerobic in character and resulting from the same kinds of wounds.



Gas in muscles especially near surface on tibial side.

ANESTHESIA:

Every patient the subject of gas gangrene infection is a potential surgical risk. Not only the kind of incisions made or the place and type of amputation is of great importance as to the prognosis, but the kind of anesthesia employed is of equal importance. Especially is this so when the patient is very ill and the operation to be done a necessarily shocking one. In order to reduce all risks to a minimum, particularly in the pathology under consideration, and indeed more especially in any intra-abdominal procedure upon a patient in a serious condition, as for example, acute intestinal obstruction, general peritonitis, extensive visceral resections, etc., inhalation anesthesia should be avoided and spinal anaesthesia substituted. The immediate risk of operation is materially lessened and the post-operative dangers of pneumonia, etc., are reduced to a minimum. As now developed we are able to overcome the one great objection to its employment, that is, the tendency to lowering of the blood pressure. I believe it is in many instances reprehensible to employ general inhalation anaesthesia in operations below the diaphragm, especially if the procedure is a serious one, and time-consuming. In the same conditions, relatively rare, local or block anaesthesia should be employed in operations to be done above the diaphragm. From a growing experience I am learning to appreciate more and more the advantages of spinal anaesthesia, its harmlessness and ease of induction. Recently I witnessed an operation done in a neighboring state, upon a man eighty-six years of age (resection of the caecum, ascending colon, and part of the transverse colon). He was having marked obstruction symptoms. Spinal anesthesia was employed, Pitkin method. There was no pain, sweating, or lowering of the blood pressure. It was something worth while witnessing. Besides doing a number of recent abdominal operations under spinal anesthesia, I amputated the foot for gangrene, senile in type, of a woman ninety years old. Spinal anesthesia was employed (Pitkin method). There was no pain or any evidence of shock.

When I come to discuss some of the life-saving measures in abdominal surgery, too often overlooked, I will try to explain how in some instances operation is justifiably hopeful under a properly induced spinal anaesthesia, where the same operation under similar circumstances would be almost hopeless under general inhalation anaesthesia.

LIQUOR COMES HIGH

Mrs. House—"And how is your husband this morning?"

Mrs. Holmes—"Oh, very poorly. He's got such an expensive disease. The doctor says he must be kept in good spirits."—From Tit-Bits, London.

PNEUMOTHORAX, PHRENICOTOMY AND THORACOPLASTY IN ADVANCED TUBERCULOSIS*

CLARENCE EMERSON, M. D., F. A. C. S.,
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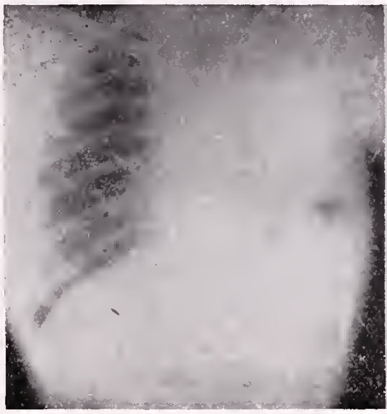
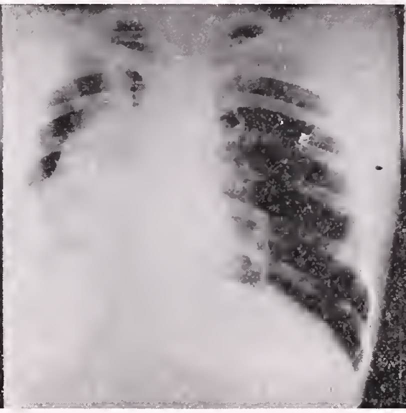
These patients are presented to illustrate the possibilities of arresting extremely advanced tuberculosis by collapsing the chest by means of pneumothorax, phrenicotomy and thoracoplasty, and to urge that these procedures receive greater consideration as adjuncts to medical management of tuberculosis.

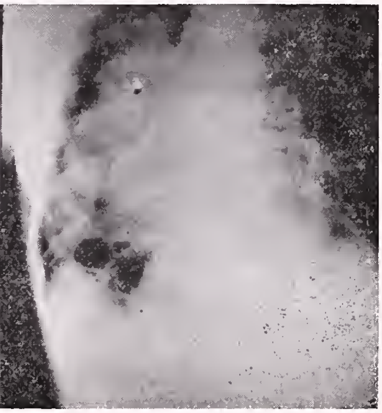
Pneumothorax induced by injecting filtered air into the pleural cavity collapses the lung and limits its motion. The special point I wish to stress in considering pneumothorax is that the conservatism in its use which demands that one lung shall be unaffected or little affected is wrong; that on the contrary pneumothorax applied to the most involved lung in extensive bilateral tuberculosis is frequently of great benefit.



M. G. 3.
Left chest opaque from collapsed lung and heart. The mediastinum and heart are displaced to the left.



M. G. 2.
After phrenicotomy—left diaphragm immobile and high. Left chest much reduced in capacity.



M. G. 1.
After 1 year of pneumothorax and before phrenicotomy—contracted left lung and pneumothorax.

Phrenicotomy, little used in this country except in special tuberculosis clinics is also of great value. The phrenic nerve is cut or avulsed by a minor operation in the neck resulting in a paralyzed and relaxed diaphragm on that side. The effect is to greatly reduce the capacity of the chest and limit the activity of the lung. It is indicated after pneumothorax when a lung is permanently contracted by healing scar tissue or as preliminary to thoracoplasty to test the ability of the opposite lung to bear the increased burden without aggravation of its own lesions.

Thoracoplasty performed by removing segments of ribs one to eleven in the para-vertebral line collapses the lung and permits healing of extensive cavitations and infiltrations. It should generally be preceded when possible by pneumothorax and phrenicotomy.

The indication for thoracoplasty is any condition that results in so much destruction of lung tissue that a permanent reduction in the size of one thoracic cavity is necessary to obtain closure of cavitations and absorption of infiltrations. Extensive cavernous tuberculosis of one lung with slight or moderate involvement in the other furnishes the most frequent indication. Involvement of the opposite lung is not a contraindication. The most involved lung should be treated. Preliminary pneumothorax and phrenicotomy will have furnished opportunity to test the ability of the opposite lung to carry on without aggravation of its lesions.

The abandonment of the opinion that collapsing operations, either temporary, as in pneumothorax, or permanent, as in phrenicotomy and thoracoplasty, are contra-indicated in bilateral tuberculosis will increase the number of patients to whom these valuable operations are made available.

Collapsing operations are indicated in bilateral tuberculosis. The most extensively involved lung should be selected for treatment. The improvement in the opposite lung or in distant foci such as the larynx is often as in the case reported extremely gratifying. Apparently hopeless cases of pulmonary tuberculosis with cavitation may be given a new lease on life and health.

Case I. Miss G. Nurse. Was returned home in December, 1925, from duty in the Boston City Hospital with such an unfavorable prognosis that she refused medical attention for four months.

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

Status praesens, April, 1926.

Emaciated bed patient—P. M. temperature up to 104. Expectoration 300 cc daily. Tubercle bacilli numerous. X-ray and physical examination revealed extensive bilateral tuberculosis with large cavities in the upper left. Pneumothorax induced and repeated frequently through 1926 and half of 1927. Immediate result of pneumothorax was reduced cough and sputum and drop of temperature to 99 to 100.

In August, 1927, the following condition was present:

1. Sputum practically nil.
2. Cough slight and only in the morning.
3. Tubercle baccilli—present but extremely hard to find.
4. Temperature occasionally reaching 99 1-4 in p. m.
5. Gain of weight from 105 to 148.
6. X-ray findings:
    1. Left lung collapsed and undoubtedly permanently contracted.
    2. Pneumothorax of left pleural cavity.
    3. Right lung very markedly improved.

At this time phrenicotomy was done to permanently reduce the capacity of the chest with immediate ascent of the diaphragm and loss of its function.

April, 1928.

Patient weighs 118 pounds, looks well, is ambulatory and free from cough. Clears throat some in early morning. Sample of sputum almost unattainable and was largely mucous. No TB found after strenuous search. X-ray shows right lung almost entirely clear. Immobile and relaxed left diaphragm and the left chest opaque from solidly contracted fibrous lung and displaced heart. The heart and mediastinum are markedly displaced to the left. This case is one of arrested tuberculosis with undeniable recovery of extensive tuberculous infiltration of the untreated lung.

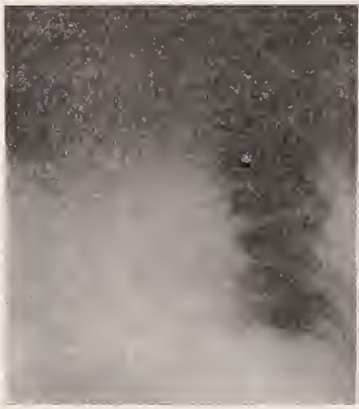
Case II. John D. Baker. Age 31.

Had a positive diagnosis of pulmonary tuberculosis in January, 1927, with a history of cough and malaise for three months previously. In May and June of same year he had a short course of pneumothorax which was not checked by x-ray. It is doubtful in view of later findings if actual collapse was obtained.

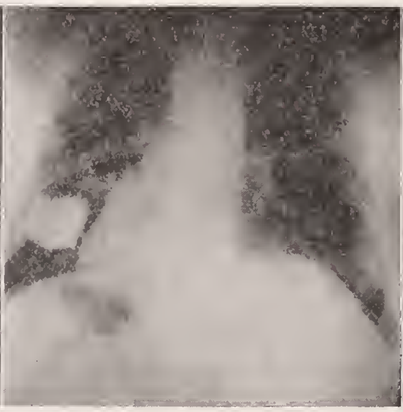
Status praesens on admission to General hospital, previous to my observation:

Six months ago had a short course of pneumothorax not checked by x-ray.

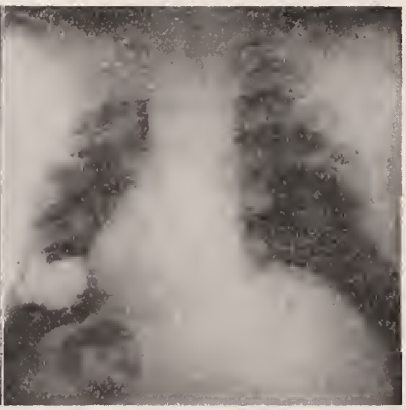
Two months before coming to me he was examined at the Mayo Clinic and returned home with a hopeless prognosis. He then spent a week at the State Tuberculosis hospital in Kearney but would not remain longer.



J. D. 3.
After thoracoplasty. Left chest filled with heart and collapsed lung. Right lung improved.



J. D. 2.
After phreincotomy. Failure of marked upward ascent of diaphragm.



J. D. 1.
Large cavity in left apex. Lipiodal in pleural space communicating with bronchus. Before phreincotomy.

Recent progress had been consistently downward as to loss of weight, temperature, cough and profuse sputum.

Epitome of findings on October 15, 1927:

P. M. Temperature—101° to 104°.

Sputum—300 cc per 24 hours. Numerous acid fast bacilli.

Weakness extreme.

Aphonia—Had been unable to speak above a whisper for eight months.

Physical findings of extensive cavernous pulmonary tuberculosis, with preponderance of involvement in the left lung.

X-ray diagnosis—Large cavernous tuberculosis of left upper lobe. Extensive tuberculosis of most of left lung. Considerable scattered involvement of right lung.

Preliminary treatment with pneumothorax:

Six attempts at pneumothorax failed to induce any collapse. Investigation with lipiodol injected through the needle used for pneumothorax revealed a communication between pleural cavity and bronchus thus rendering collapse by pneumothorax impossible. Phrenicotomy was done November 2, 1927. Definite but slight alteration in the capacity of the chest was induced, the limited effect probably being due to adhesions.

Thoracoplasty was performed in two stages.

Segments of ribs, 4 to 11 inclusive, were removed November 26, 1927. Moderate shock. Four days later highest temperature was 99, cough had definitely lessened, and on December 9, sputum measured 50 cc or 1-6th of former amount. Still tuberculosis. On December 16, three weeks after the operation the patient who had been reporting that his throat felt better, was able to speak out loud, the first time in several months.

On December 16, ribs, 1-3 inclusive, were removed. No post operative shock. Temperature went to 104 due to wound infections with profuse purulent discharge apparently due to minute puncture of pleura and lung, but dropped after one week to 98° to 99 3-5°. Drainage had practically ceased and wound was healed 10 days later. At this time sputum was at times 10 cc and the greatest 24 hour quantity had been 25 cc. He was able to vocalize but was hoarse.

January 6—Temperature had not been above 98 3-5° since January 1. Feels better every day. Cough steadily decreasing and sputum lessening.

April 1—There has been steady improvement as to cough and hoarseness and amount of sputum. Considerable gain in weight and p. m. temperature seldom above 99°.

Thoracoplasty in this case has converted an extensive and rapidly advancing tuberculosis with a hopeless prognosis from medical management alone to one of very marked improvement with every indication that an arrested tuberculosis will soon be accomplished.

DISCUSSION

J. M. WILLIS, M. D., (McCook): I was a little reluctant to accept the invitation to discuss this paper for the reason I do not claim any great experience in thoracoplasty; but on making inquiry, I find I have plenty of company so far as the surgeons in this part of the country are concerned.

It is within the memory of most of us that if a surgeon had advocated thoracoplasty for the cure of consumption, he would have been considered a fool. Now the operation is becoming rather common and well known. The American surgeons had reported 1100 cases up to one year ago. Dr. Emerson states in this connection that bilateral involvement does not necessarily contraindicate thoracoplasty. In reviewing the literature I can find, I find all through it the statement that if there is bilateral involvement which is rather extensive, it is a contraindication. However, as I have stated, my experience has been so limited I will accept Dr. Emerson's statement.

In the x-ray picture we may find a rather extensive fibrosis in the better lung, but the fibrosis or scar really is a good indication for the reason it denotes strong resistance on the part of the patient. High fever and profuse expectoration are not contraindications. All cases should first have sanatorium treatment with pneumothorax. The border-line case may be the one in which the pneumothorax is unsuccessful for the reason there are adhesions preventing the collapse, or the case like the Doctor showed with the fistula extending into the bronchi.

The surgical treatment of pumonary tuberculosis is in the collapse of the lung by removing the chest wall, thereby putting the lung at rest. The operation is done by most surgeons in two or three stages. The sections of the first to the eleventh ribs are usually removed—about two and one-half inches of the first rib, and seven inches of the eleventh rib, the gap widening as you go downward. The ribs are severed as near the spine as possible. The periosteum over the rib is split and dissected away and left **in situ.** The results of the operation are amazing when one considers the poor condition of the patient at the time of operation.

Dr. Archibald of Toronto was the first surgeon on this continent to perform this operation, which he did in 1912. At the Cleveland meeting he reported eighty-seven cases with a mortality of 6 per cent. I understand Sauerbruck claims a mortality of 2 to 3 per cent. In the 1100 cases reported by American surgeons the following results were collected: One-third cured symptomatically and returned to work; one-third considerably improved, and one-third were made worse or remained stationary.

Surely, then, if two-thirds of tuberculous patients, doomed to sure death unless surgery can aid them, can be saved by thoracoplasty, it needs no further argument in its favor.

JOHN C. THOMPSON, M. D., (Lincoln): The subject of thoracoplasty is one that is more or less new to American medicine. The operation is an old one, but its application to cavernous tuberculosis dates to Sauerbruck in 1911. After the war in Europe, cavernous tuberculosis increased in incidence, and the amount of work done with this surgical procedure in the treatment of advanced cases was considerable. I have had personal opportunity to see many of these cases. There is no question but that the operation has added a great deal to the life of a number of individuals who would otherwise have died.

In discussing this subject, I view it from the medical viewpoint. You have noticed the displacement of the heart in the roentgenograms shown by Dr. Emerson. An article appeared in the Journal of the American Medical Association recently, by a Denver man in which he stated fatty degeneration and right heart preponderance resulted from this operation. Such a statement must be viewed with a certain degree of alarm, because it would tend to prevent individuals from using it who might otherwise think of doing this operation.

It seems to me the conclusions in this paper were based on a great deal of false evidence. We know in our study of cardiology that the cardiogram is a visual representation of certain changes of potential in the electric field. The man who wrote this paper stated that after a thoracoplasty was done the patient had a right heart preponderance.

He has neglected to take into account the fact that as a result of the collapse of one lung the heart has rotated in the chest cavity changing the position of the electrical field in its relation to the three fixed points from which the leads are taken.

I do not believe his evidence that a right heart preponderance results is based on a degree of fact. We know when the right heart enlarges in ordinary heart disease, instead of having a right heart preponderance, we have a left heart preponderance. So that the rest of this man's evidence, if based on the same degree of scientific knowledge, should be taken with a good big grain of salt.

There has been considerable said of the lung after operations of thoracoplasty. It is a well established fact that air is driven out of the diseased part of the lung and lymphatic drainage is increased. A fibrous process occurs which tends to produce healing by scar tissue formation. The question of whether the circulation in the collapsed lung is increased is one which has not been definitely decided. In the writings of some authors it has been stated instead of hindering the circulation, the blood supply is increased. This would help to heal the tuberculous lesion.

I think we can feel happy in Nebraska that we have a few surgeons doing thoracoplasty, because it presents an added means in the hands of the skilled man to treat advanced cases of tuberculosis. The mortality is steadily diminishing. In Denver, I understand that in some of the first operations done in one hospital, there were only three lived out of ten. The improved technique of the operation and the diminished mortality have given us something to hold out to these cases of advanced tuberculosis, with hope for cure.

DR. EMERSON, (closing): I only wish to say with regard to the statement which Dr. Willis made that it is entirely true. All through the literature there is this caution against the use of thoracoplastic operations in bilateral tuberculosis. I think it was a statement somebody made and others have repeated. There is an article published in 1915 by Sach which remains today a masterpiece on the subject of pneumothorax. In that article he mentioned there was a proper indication for pneumothorax in many cases of bilateral tuberculosis, and the indications for its use were constantly being extended. At this time the fact there are so many references to bilateral tuberculosis being a contraindication should not be taken too seriously.

In central Europe, where bilateral tuberculosis is common, they have been doing a lot of this work; and Paris surgeons state they use almost routinely pneumothorax in bilateral tuberculosis. The great majority of the cases Sauerbruck is operating are cases of bilateral tuberculosis.

MEDICINE AND THE MIDDLE CLASS*

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That there is some want of understanding today between our profession and the public it undertakes to serve wants not witnesses: if one need evidence beyond his immediate personal experience he may turn to the standard magazines for the layman's view point and to the responsible statements and efforts of the American Medical Association for the doctors. Briefly the feelings of the two sides, so far as the debate touches economic matters comes roughly to this, the patient is overcharged, the physician is underremunerated.

The low average annual income of practitioners at large substantially less than $4,000.00 would seem to afford *prima facie* evidence of the doctor's contention. But if the validity of such an argument is admitted, the layman may allege a similar inconvenient shortage of funds. In 1919 there were 957,432 income tax returns showing an income of $5,000.00 or more. Accepting for the purposes of a rough calculation the Bureau of Labor's model family of 4.3 it results that not more and probably many fewer than 4,116,958 of our population belong to families having an income of $5,000.00 or more per annum. This is somewhat more than the one and one-half per cent accepted by H. H. Moore and rather less than Dr. Vincent's estimate that five per cent of us are rich.

On the other hand that approximately 20% are too poor to pay for medical aid seems fairly well established. There is more evidence available from the urban than from the rural districts to be sure, but there is little ground for rating the well being of the country above that of the cities.

At this point it may perhaps be well to point out that there is no Golconda in the dispensaries for the esurient doctor. Recently the thought has been flung to the winds that the charitable care of the poor deprives the doctor of those marginal earnings that would make his life financially a happy one. Our large permanent unemployment and its increase this year to somewhere between two and four millions out of an aggregate of workers in industry of twenty to thirty millions affords but little encouragement for the prospectors in this unprofitable field. The increasing development of social work, the customary attachment of case workers to dispensaries and hospitals are placing those institutions in a position to defend their practices and their clients from unjust accusation. One of the largest relief giving agencies of New York a few years ago reported that 96% of its relief was given to families in which illness had caused or contributed to their status of poverty. Our local experience is much the same. There are few efforts at abuse, and they are detected with increasing efficiency. Two classes may be mentioned: parents are too frequently willing to evade responsibility for their children's illness; there is a tendency to despair of specialists fees and seek relief in charity.

As has been said, the case worker has the key to this tender situation; she can determine with some precision what a family can reasonably be expected to pay. It might be profitable to approach this problem from the standpoint of the family budget and to obtain the view of the case workers in this rather expert field with references to charges.

The remaining seventy-five per cent of the population would for the purposes of this paper constitute the middle class. It is difficult to define its boundary in terms of income from the class which does not pay for service. Ogden estimates that in December, 1919, a budget of $2,104.00 for a family of five would allow $80.00 for medical service including dentistry. The average amount paid by 12,096 families studied by the Bureau of Labor Statistics was $60.00 a year. From these figures Howe concludes that a family in an industrial community having two or more wage earners among its members can pay $60-80 for health. A single man or woman with average income can pay this amount or rather more. But it must be remembered that as many fall below an average as rise above it and that millions of clerical and working families fail to achieve the average income or to incur only such ailments as can be paid for by so moderate an expenditure. Means of relief at this income level might be sought in the developing of health insurance, in reduction of the physician's overhead, in special clinics. Insurance is a way of distributing costs over a large number of persons and over a long period of time. Promotion of insurance for this purpose is not only in itself useful but may introduce a motive into the lives of workers to offset the pressure of modern advertising and installment buying. On the other hand the unnecessarily high over-head carried by many physicians in matters unessential to the rendering of skilled service ought not to be passed on to persons on the margin of competency. This financial class is strained to pay very moderate fees, they can hardly pay the differential between a Ford and a Lincoln, between a decent and an elaborately furnished office. Ultimately the pay-clinic may prove the practical means of adjusting costs to income for this important class of self-respecting people.

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The Cornell clinic repays study from the standpoint of those just able to pay and the rates at which they can be served by an organization meeting its running expenses but not its rent, light and heat. Single individuals are received with incomes ranging from a minimum of $1,600.00 to $1,800.00; families ranging from a minimum of $1,600.00 for two to a maximum of $3,000.00 for a family of five. The charge for service is very moderate. For 80 consecutive patients, for example, it was found to total $522.40. The same service rendered at minimum office rates was estimated to cost $1,182.00, or if given by specialists with the usual x-ray and laboratory tests at current rates would have amounted to $2,595.00, a saving of 80% to the patient as against the usual cost of such illness handled by the mechanism of private practice and consultation. On the other hand it is estimated that the return to the individual members of the staff, had they served full time at the rate of their remuneration for part time, would have ranged between $6,000.00 and $10,000.00 annually.

The Cornell Clinic is cited to indicate that the level of income at which medical service can be paid for varies not only with the competence of the family but also with the organization of the medical men themselves. It, in a measure, proves the compatability of materially reduced rates to the public and returns to the doctor above the average earnings of his fellows. It will, of course, be remembered that this project is attended with no little criticism from the profession.

It is interesting further to note that there was little tendency to exploit the clinic by those able to pay conventional rates, out of more than 20,000 patients in one year, only 265 were rejected because it was felt that they could afford to pay usual rates and 3,129 because they could not afford the very moderate charges of the clinic.

If there be small prospect of extending the limits of paid practice to lower levels of income, the possibility remains of increasing remuneration at higher levels. In theory the professional fee has sought to adjust charges to the means of the patient and it is widely accepted by the public that the higher rates paid by the rich enable the doctor to discharge his charity to the poor. Indeed this custom has sometimes been made the basis of a charge by business men that the doctor does no charity himself but merely acts as intermediary of the good will of his wealthier clients to the less fortunate.

However, that may be abstractly, it is doubtful if the rich pay proportionally to the poor for service, proportionally that is to their ability. A charge equivalent to a month's income for a major surgical procedure is not considered excessive by many to a patient whose wage is one hundred or one hundred and fifty dollars a month; yet it is doubtful whether an equivalent fee would be asked from one receiving as many thousands. In the case of very large incomes the importance of the patient tends almost to become a reward to the physician.

There is much complaint of this method of charging, not as regards the principle, but touching the very amateurish way in which the financial status of the patient is decided by many doctors. It is easy for the method to degenerate into an affair of bargaining, in which the shrewder and less self-respecting patient obtains a reduced bill to his own boastful satisfaction and to the disgust and umbrage of his fellows, the one feeling some contempt for the physician he has taken at advantage, the others some irritation at the casual ways of the doctor in matters which concerns them deeply. To all the fee for special service appears formidable, and exerts a ponderable influence in determining them to self-medication or inferior forms of treatment.

While at this point there is need of education that shall enable the public to appreciate the cost of modern treatment, to physician as well as to patient, there is no reason to expect of the possessing classes a diminuation in their regard for money as the symbol of success in the game of life. What they pay reluctantly they often give generously and the advance of medicine and medical institutions owes much to their liberality. It is true that much of this munificence is absorbed in the pomp and display of institutionalism and fails to reach the physician and his patient in full measure, and is still confined rather narrowly to the wealthier districts as direct benefit, while towards the less favored by nature and industry it is still content to act from a distance and as a stimulus through methods of standardization; yet gradually by survey and questionary the national problem is emerging and one cannot doubt that eventually a national program will evolve itself recognizing actual sectional needs as frankly as previous condition of wealth.

If then no very immediate material amelioration of the doctor's lot is to be expected by extension or enhancement of the professional fee, and the average doctor, like the average citizen, must work out his earthly happiness in a moderate financial situation, no very terrible fate in the judgment of a laboratory worker, it may be that he may find satisfaction in the ideals of his profession and in seeking to extend its benefits more widely and more completely than has yet been accomplished.

There is much to be done and the variety and extent of the modern social movement is such that it not only affords new fields and applications of all the skills and knowledges that traditionally belong to our profession, but also offers opportunity for executive talent, teaching ability, business acumen, statesmanship and cooperative action which have not been among our conspicuous achievements.

Once we take upon ourselves the full responsibility of safeguarding the health of the nation we enlarge our scope and envisage new problems which have in them something of the tang of high adventure.

It is not surprising that collectively we have hesitated to espouse actively the cause of health, except as we endeavor to alleviate and cure the sick; the task of keeping abreast of the rapid progress of our times is laborious to the man in active practice and renders him little susceptible to the allurement of new enterprises. In the past as the burden of knowledge and technique has increased we have had recourse to specialization; and again the exigencies of the hour require that the art of keeping people well should entrance some imaginations and provide a new corps of experts; even more, however, it requires of us that we should take stock of our personal practice and if need be trim off some of its fringes that we may individually have energy and leisure to incorporate the preventive view point more largely into our management of those patients and families who compose our cliental.

The demand is for a more minute diagnosis, a more refined clinical insight into minor aberrations, a fuller comprehension of the patient as a person with mental habits and peculiarities, and more appreciation, the complex social environment in which he finds himself perplexed and frustrate.

Historically diagnosis has extended itself from the disease to the patient, from the organ to the body as a whole, it must now include the family as the social unit, and take note of the total situation of the patient, with a view of adjusting the person in our charge to the life he has to lead, not only for the immediate acute present but for a maximum of efficient and satisfactory years.

At the moment one almost fears the lay public has formulated a concept of health that the profession is unprepared to accept, accept that is as a practical goal of effort, not a mere Utopian ideal. And yet disease is so expensive cure is so often problematical, that one can hardly doubt that the center of activity and progress in the next decades will shift from the individual patient and his physician to the mass of the people and organization to maintain and promote their health.

Of all the organizations that might concern themselves with this field the one that most intimately affects our profession is the County Medical Society. Within a limited territory a moderate number of doctors represent to the public the traditions, ideals, knowledge and skill of a great profession. In a certain sense the health of that community is the index of the efficiency of the society. If doctors really wish to continue as the accepted guardians of the public health it is for them through the local society to become the motive force for health progress in their district, and this by constructive cooperative action in meeting the needs of time and place, rather than by negativistic censoriousness to discourage efforts of the laity to meet requirements, which we are wont to overlook. No position can be held indefinitely by defensive tactics. If we cannot move forward, if we cannot learn to cooperate, we must resign ourselves to an inevitable loss of prestige and ultimately become the servants of massive health organizations, commercial or governmental, which will undertake the work we have been too preoccupied to perceive as our opportunity.

The choice of Hercules presents itself to groups as to individuals, for us today it takes roughly this form: Shall we strive among ourselves for the possession of the sick or shall we cooperate for the health of the people?

Three years ago at a meeting of this society one of our members reproached our insensitiveness, "Enthusiasm of the medical profession for disease, patients and fees is thoroughly ingrained; its eyes have never been thoroughly opened to its responsibilities in the field of preventive medicine, a most important part of which is school supervision."

In 1922 and in 1924 the House of Delegates of the American Medical Association endorsed the periodic health examination and encouraged the members of the society to perform these examinations. A pamphlet has been published on the technique and advice incident to this important service.

The Oregon State Medical Society took steps to promote proficiency among its members in this work, and there have been other efforts in many places, but I do not think it is unjust to say that at present there is more intelligent interest in the periodic health examination among the managers of insurance companies than among practitioners of medicine.

England, even in its daily press, expresses its chagrin that its maternal mortality persists at four per thousand. We tolerate a rate of over six per thousand in the registration area, and it requires no great foresight to predict our characteristic reaction to this lamentable condition will be to require an increase of hours in the medical school curriculum for obstetrics, and let it go at that. Thus the practitioner prescribes for the schools and the surgeon reforms the hospitals, while it might be wiser as well as humbler to take to heart the saying "physician heal thyself".

There is not a county society which might not be an innovator in some degree in the present state of our affairs. We, in a state where as yet medicine has made but moderate advance might count ourselves fortunate in our opportunities to demonstrate that our local organizations can assume the burdens and services of the responsibility we claim as guardians of the public health. Nor is evidence lacking that there is among us leadership and capacity for our task.

The Dodge County Medical Society has assumed collectively the work among the poor usually assigned to the county physician. The Richardson County Society has made a most interesting and important examination of the school children.

Our own state medical society, through its Public Activities Committee is giving coarses upon health in our normal schools. Others no doubt are doing important things. These instances suffice to prove that we can overcome the limitations of our competitive individualism and find satisfaction in facing together our common responsibilities.

There is no obvious reason why a county society, or the doctors in a town, should not look upon themselves as the faculty of medicine in that community; why they should not together estimate the needs of that community and arrange among themselves to meet them; to assume some form of public health work together as their corporate task and at least provide in some measure for the much needed education of the people in the rudiments of hygiene and sanitation.

If county societies could promote correct reporting of causes of death and accurate registration of births they would render no small service to the state, and accurate vital statistics might serve as some index of the state of health and efficiency of organized medicine from county to county. A conscientious reporting of cases of communicable disease would eventually demonstrate the efficacy of the preventive measures which are the pride of modern medicine.

Whatever the undertaking, it would have a two fold effect: Among ourselves it would beget a solidarity, among the public it would inspire confidence and respect. Biologically it is just as normal to cooperate as to compete, the principle of mutual aid is more valid for social animals than the survival of the fittest. Man in primitive times survived by the all but total sacrifice of the individual to the tribe. Internecine competition is a luxury of a civilization with surplus energy and resources. In times of stress it is controlled or ruin follows; in easy times it is a waste of energy, happiness and sometimes of morals. If the pressure of organized health movements constrains us we shall no doubt be tempted to unite in opposition—in opposition to what the public will undoubtedly deem the public good. If we can gain the vision of a people healthful and vigorous and owing their health to our spontaneous efforts in their behalf we shall recapture the traditional joy in service which is our heritage from those who have moulded and enriched our profession and made it honorable in the eyes of men.

One may view organized medicine from more than one standpoint. We may conceive it as chiefly living at the top, in council and committees which will do our thinking for us and from time to time issue advice, admonition, stimulus to us, or even send missionaries amongst us to convert us to the better practice of our professions; or we may view the matter democratically and conceive the local units as the vital part of the organization, through which the rest lives and the collective wills of which the larger organization expresses. The latter view would substitute right deeds for good resolutions. It would tend to Americanize us in the sense that we would share more fully in the life of our communities.

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AORTIC VALVE DISEASE*

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The clinical case which I wish to present this morning is that of a young man 23 years old, American born and of German descent. The occupation is given as a student and farmer.

I was first called to his home in April, 1926, because of what he told me was a "fast heart", distress "in the heart", which he could not definitely describe, and "endocarditis". After questioning him it was learned that he had been attending school away from home, was taken ill about two weeks before with the grippe and rheumatism for which a physician was called who after a few days told him that he had endocarditis and advised him to give up the school work for the remainder of the year. After about one week at home, the rheumatism had practically disappeared but he had began to have a rather indefinite distress in the region of the heart; attacks when the heart would suddenly jump or miss and begin to run very rapidly and after a varying length of time another sensation of jumping or skipping and the heart rate would just as suddenly slow so that it would not disturb him. It was also brought out that 5 or 6 years before he had some trouble lasting to 2 or 3 weeks for which he consulted a doctor who told him he had rheumatism and that he had heart trouble. He had not to his knowledge had scarlet fever, diphtheria or pneumonia. He had had his tonsils removed following the attack of rheumatism, but had had some minor attacks of sore throat even afterward. The family history was unimportant.

He was then as he is now, well nourished and well developed. He was lying prone in bed without as much as one pillow under his head. The face was markedly flushed. The conjunctivae markedly injected and there was plainly visible a rapid throbbing in the vessels of the neck and even the body and legs throbbed so that the throbbing was visible in the bed clothes covering him. The temperature was 99, the pulse around 190, perfectly regular in force and rhythm. From minute to minute the rate did not vary more than 4 or 5 beats. There were some red streaks of lymphoid tissue on the posterior wall of the pharynx. The apex impulse could not be definitely visualized. The left heart border was at or just outside the nipple line in the fifth interspace. The right substernal, and the upper about the upper border of the third rib. Auscultation did not identify definite murmurs. Examination of the abdomen revealed no noteworthy pathology. Pressure on the eyeballs, compression of the carotids, holding the breath would markedly slow the pulse but within a few seconds after they were stopped the former rate would return. Because this man had had no sleep for 24 hours and because we were twenty miles from our base of supplies, an ice bag was placed over the precordium, 1-6 grain of morphine given hypodermatically and 3-4 grain of quinidine sulphate every 4 hours by mouth.

The next day when I returnd to see him his condition had markedly changed. He looked comfortable. The pulse was in the 80's perfectly regular but not sustained, more like the water hammer variety. There was a coarse diastolic murmur heard over most of the precordium but most intense in the second right intercostal space. It was of the descrescendo character, was present through the early and most of the latter part of diastole. There was also a soft short systolic murmur heard also in the second right interspace and to the left of the sternum. There was pistol shot sound over the femoral, brachial and large arteries of the neck. The blood pressure was systolic 170 and the diastolic was very loud even at zero. During the following 2 weeks it was determined that the leukocyte count ranged from 8 to 11 thousand, the temperature normal, urine normal and blood cultures were negative. At times capillary pulsation could easily be elicited and at others with difficulty or not at all. The blood Wassermann was negative.

After a rest period of about 4 weeks he was advised to begin exercise which he did with quite frequent observation, through the remainder of the summer and fall, with only a few transient attacks of heart trouble. The following school year he went back to school for the second semester and late in the spring had another attack of what was called la grippe, with slight rheumatic pains. He ran a little temperature and immediately he began again to have the sudden attacks of rapid heart which became more frequent and lasted longer until in August, 1927, he was having them almost continuously when I was consulted. He was immediately hospitalized and given quinidine with apparently no results. Then digitalis in doses of 20 drops of the tincture four times a day was given. The clinical and laboratory findings including blood cultures were essentially the same as those reported in the previous attacks except that for the first week in the hospital his temperature was 99 to 99½ at some time during each 24 hour period. Also the left heart border extended to two fingers breadth outside the nipple line until after the tachycardia had ceased when it was again in the nipple line. After 4 days in the hospital and while taking digitalis, the tachycardia stopped and did not reappear during the remaining week he was in the hospital. After he left the hospital he irregularly took digitalis, gradually increased his exercise and got along with very little complaint of the heart until three weeks ago when he again had an attack of the la grippe lasting only a few days. He began to have the rapid heart again and about two weeks ago he come into my office with the heart running about 190. This time pressure over the eyeballs, holding the breath and pressure over the carotids would cause the rate to drop to in the 70's. An attempt was made to get an electrocardiographic tracing during his attack but before it could be accomplished the attack had ended. It was reported as normal except slight right preponderance. An x-ray picture indicates some enlargement to the right as well as moderate to the left. At this time the cardiac findings are about as they have been reported. The systolic pressure is 190.

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It is my belief that this boy is suffering from aortic valve disease chiefly incompetence and auricular paroxysmal tachycardia; that it is chiefly the paroxysmal tachycardia which has made him conscious of a heart derangement and that probably the original process was a rheumatic heart disease.

The interesting thing to me in the establishment of this case is the future for this boy. He is a young man. Aortic valve lesions are supposed to be of seriout import. I personally feel he has an aortic incompetency, possibly some stenosis, and that he has attacks of paroxysmal tachycardia, probably of the auricular type, and this is probably all from an old endocarditis.

The electrocardiograph tracing was essentially normal, with possibly a slight tendency to right preponderance. The x-ray pictures showed evidence of right-side hypertrophy, as well as left, moderately.

I feel this boy has not had so much trouble from his aortic valve. I believe most of the symptoms of which he has complained have been due to attacks of tachycardia. I believe the two are probably associated; that they have been the result of the same ill influence.

Prior to this last attack of respiratory infection, he was able to do a great deal of work without any discomfort. Now if he exercises too much, he begins to feel a tightness in his chest.

As to the treatment of this case, we looked for infections. He had when we first saw him some streaks of red lymphoid tissue down the posterior wall of the pharynx. He did not respond to treatment. We tried applications of silver nitrate, and they finally cleared up. The sinuses were negative. Following this last attack, an x-ray of the sinuses suggests some clouding in the left antrum. That has not been gone into any more than to study the x-ray on it.

I have told this boy that I believe he can stand a moderate amount of work if he watches himself. I have told him he must continue to watch for infections; that they must be kept cleaned up. I do not know whether he is going to be able to do farm work or not. He has not been able to go to school. However, I have hopes he will be able to continue at light work.

I thank you.

CHRONIC INTUSSUSCEPTION*

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Relative to this subject, I wish to report a case occurring on my service at St. Joseph's Hospital, Omaha:

The patient, a female, age 62 years, mother of eleven children, entered the hospital, July 7, 1927. She gave the following history: Seven weeks ago she began to have dizzy spells. These would come on at any time, but especially after reading. She had glasses fitted, and a short time later had all her upper teeth removed. The dizziness was relieved to some extent. Three weeks after the onset of the dizzy spells, and four weeks before entrance to the hospital, she was seized, one evening, with a moderately severe pain in the epigastrium. This pain was colic-like in character, radiated to the lower right quadrant, and then across the lower abdomen to the left side. The seat of the greatest pain was in the epigastrium. After a short time she vomited and felt relieved. During the next three or four days she experienced severe pain after every meal, and usually vomited. As time went on the pain became more severe, so much so that the ingestion of the least amount of food would bring on a paroxysm. The vomiting ceased, but the pain continued. It was always the same, located in the epigastrium, radiating to the lower quadrant, and relieved by belching. During this time she was quite constipated and took cathartics freely. This resulted in frequent bloody stools. After three or four days the movements became more normal, but were occasionally streaked with blood. Because of continued distress the patient feared to eat, and took as little food and water as possible. As a result she lost fifteen pounds in four weeks.

Patient stated that previous to the onset of the present trouble she had never been seriously sick, and had had no symptoms referable to the gastro-intestinal tract. For several years she had noticed a hard swelling on the roof of her mouth, but stated that several years ago a piece of the tumor was removed, and she was told it was not malignant.

Examination revealed an emaciated woman 62 years of age. She was very nervous and greatly worried about her condition. The upper teeth were all missing and the gums still unhealed, following the recent extraction. The lower teeth were in poor condition. On the upper right jaw, along the gum line, was a small tumor about the size of a hazel nut. Throat was negative and lungs were clear. There was a systolic murmur present at the apex of the heart. There were no masses, nor was there tenderness in the upper abdomen. The lower right quadrant presented a firm, slightly movable, irregular mass about the size of an orange. It was quite tender to pressure. There was no evidence of pelvic or rectal diseases. Systolic pressure, 110; diastolic, 70. White count was 13,000—70% Polys. Urinalysis showed acetone 2-plus; otherwise negative. Temperature was 99, pulse 120, skin dry, and patient's general condition poor.

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*Read before annual meeting, Nebraska State Medical Association, Hastings, May 15-17, 1928.

A diagnosis of probable appendiceal abscess was made, though the question of malignancy was seriously considered. The patient was thoroughly alkalinized, and forty-eight hours after admission to the hospital, laparotomy was performed. The mass proved to be intussusception of the ileo-colic variety. The lesion involved chiefly the lower 15 cm of the ileum. The greater part was apparently outside the colon, though the head of the intussusception could be felt within the cecum. The walls of the ileum were greatly hypertrophied, proving that the condition was of longer duration than the history would indicate. All efforts at reduction were unavailing. The whole mass, including the cecum, was resected, and an end-to-side anastomosis performed between the ileum and ascending colon, a Murphy button being used. The button was passed on the 23rd day, and the patient sent home in good condition. Six months later patient had gained 30 pounds and was in excellent health.

Pathologists' examination of the specimen showed that the intussusception involved the lower 15 cm of the ileum. The gut was greatly hypertrophied. On opening the cecum, a small portion of the ileum was seen to have prolapsed through the ileo-cecal valve. Springing from the wall of the ileum, and projecting into the cecum, was a polypoid fibroma about the size of an English walnut. The tumor prevented reduction of the intussusception.

Not a great deal has been written, by American surgeons, on the subject of chronic intussusception, but there are available a number of exhaustive discussions in the British literature. The term chronic is used in connection with those cases which extend over a relatively long period of time, without presenting the symptoms and signs of intestinal obstruction. Acute intussusception is usually fatal within six days, while the chronic form may run from two weeks to six months, or longer, before coming to a fatal issue.

Varieties: There are four types of the disease, enteric, colic, ileo-cecal, and ileo-colic. The enteric involves the small intestine only, while the colic involves the colon alone. The terms ileo-cecal and ileo-colic are often used rather loosely, and by many books are spoken of as synonymous. As a matter of fact they are entirely different. The ileo-cecal is the most common. In this form the intussusception takes its origin at the ileo-cecal valve, so that the valve forms the head of the intussusception. As the invagination proceeds, the valve moves further into the cecum, dragging with it the base of the appendix. No part of the ileum enters the lumen of the colon. The ileo-colic is the least common type of all, and consists of a prolapse of the ileum through the ileo-cecal opening. The valve remains stationary, while more and more ileum passes through the valve into the cecum. As it progresses it draws the valve and appendix after it as a part of the returning layer of the intussusception. The essential difference between the ileo-cecal and ileo-colic varieties is that, in the former, no part of the ileum enters the lumen of the cecum, while, in the latter, the ileum does enter the lumen of the large intestine. An inspection of our specimen (Fig. 2) shows that a small portion of the ileum, to which is attached the tumor, has prolapsed through the valve into the cecum. It, therefore, is properly classed as an ileo-colic intussusception. Perrin and Lindsay(10) bring out the fact that an ileo-colic intussusception begins as an enteric in the lower end of the ileum, and then passes through the valve into the colon. Our specimen shows this very nicely (Figs. 1-2).

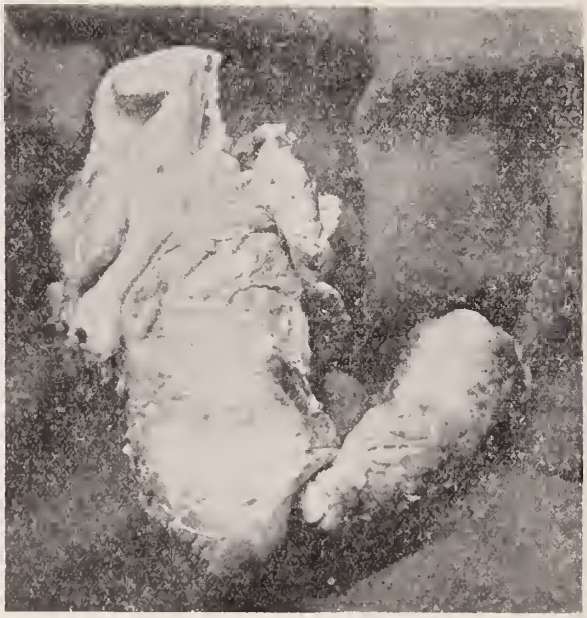

FIG. I.

Etiology: In all articles on the subject, hypermotility of the colon is mentioned as a predisposing factor. Waugh(1) believes that in these cases there is always present a long colic mesentery, due to an abnormality in development. He calls attention to the fact that the primitive alimentary tract is attached to the posterior abdominal wall by a fold of peritoneum, and that when rotation takes place, this peritoneal fold, in the case of the ascending and descending colon, disappears by fusion with the peritoneum of the posterior abdominal wall. This leaves the ascending and descending portions of large gut firmly fixed to the abdominal wall behind. In certain cases this fold of peritoneum, instead of disappearing, persists, and it is under these circumstances that chronic intussusception is prone to occur. When the invagination proceeds, if there is present an abnormally long colic mesentery, the head of the intussusception may travel a great distance without injury to the blood supply of the bowel. As long as there is no great vascular injury, there will be no great amount of inflammatory reaction, which is the determining factor in the production of obstruction. Most of the chronic cases occur in adults, though some have been reported in children. Tumors have been formed, as in the case here reported. These, no doubt, are an important etiological factor. In our case the cecum was very movable. Whether or not the ascending colon was possessed of an abnormally long mesentery, was not noted. The tumor, we believe, had much to do with the formation of the intussusception. Certainly it was the chief difficulty in the way of reduction.

Tuberculous peritonitis, fecal impaction, inverted Meckel's diverticulum, are occasionally cited as causative factors. A number of cases are primary in the sense that no cause can be found. Especially is this true in children.

Signs and symptoms: Pain is colicy in character. It may last a few minutes or longer, and the attacks increase in severity and frequency. It is aggravated by the ingestion of food, or, as in our case, by even water. Pain may come on independently of taking food. Vomiting usually occurs, at least at the onset. It may continue for a few days and then subside, or it may occur occasionally throughout the course of the disease. It is not persistent, as in acute obstruction. Wasting is pronounced. In the case here reported it was a prominent feature. These patients refuse to eat, with the result that loss of weight is rapid, and they come to the surgeon in a state of starvation acidosis. There is a remarkable absence of intestinal symptoms, considering the pathology present. Constipation is the rule. Occasionally there is diarrhoea. Tenesmus is rare. Macroscopic blood is commonly found in the stool, but never in any great amount. A tumor is palpable, and, in the vast majority of cases, is located in the lower right quadrant. It is described as sausage shaped, movable, and tender to pressure. Rigidity is usually present. Occasionally the tumor may be palpated in the upper abdomen or along the descending colon. At times the head of the intussusception may be felt through the rectum.

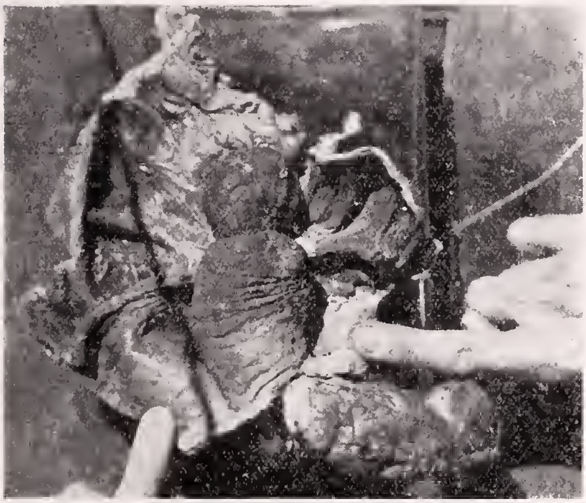

FIG. II.

Duration: One of the most remarkable features of the disease is its chronicity. The symptoms may be recurrent with long intervals of freedom from symptoms. In these cases no doubt spontaneous reduction occurs, only to recur later. A recurrent intussusception, if left to itself, will, in time, become permanent. Occasionally an acute obstruction may develop in the course of a chronic intussusception, but this is rare. As a rule the patient dies from general peritonitis, the result of leakage or rupture. In most cases reduction, with the abdomen opened, is easy, but in the irreducible cases, where resection is necessary, the prognosis necessarily becomes grave.

Treatment: Laparotomy is indicated. As there is usually no pressing danger, it is advisable to prepare the patient by the free use of fluids and alkalies. No cathartics should be used. Reduction, in most cases, is possible. In all cases a thorough search should be made for some underlying cause. In our case we did not determine the presence of a tumor at operation. The mass within the cecum was thought to be ileum. Had we been able to effect a reduction, the tumor would have been found. A search should always be instituted for tumor, especially in older subjects. If reduction is impossible, resection of the whole mass, in adults, is probably the best procedure. In children resection is extremely dangerous, and should be used only as a last resort.

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DISCUSSION

DEAN LEWIS, M. D., (Baltimore): It calls to mind a case I saw of a man forty years old with symptoms of acute intussusception. While suffering from this, he passed a piece of bowel eight inches in length and was relieved of his symptoms; but he had a mass. He was operated upon several weeks later and had a chronic intussusception. He never had any trouble. He had a spontaneous cure, and his chronic intussusception developed afterwards.

E. A. WATSON, M. D., (Grand Island): Dr. Langdon asked me to discuss his paper, which is rather unfair, because the literature on this isn't very clear, and the case is very rare. With acute intussusception that occurs mostly in sucklings we are all more or less familiar; but as to the chronic type, I did not have access to any English literature in looking this up.

In American literature, the earliest case I could find was reported by Lehlbach of Newark in 1891. This was a patient about twenty years old. This patient had a colonic type of intussusception and was diagnosed at autopsy. The intussusception intruded from the cecum, dragging the ileum with it to the middle of the transverse colon, and stopped in the upper sigmoid an inch below a perforation which had occurred in the sigmoid. The mesentery of the ileum was dragged along with the intussusception, and the ileum had become firmly adherent to the stomach.

This patient lived thirty days from the time of admission into the hospital, with a history of ten days' illness previous to that. The remarkable part of such a case as Dr. Langdon's is how long they can live and why the symptoms are not more radical.

Possibly this condition exists more frequently than we have records to show. It could easily be mistaken for carcinoma. The x-ray findings would not have cleared it up. It would have showed a partial obstruction which could easily have been interpreted as a carcinoma of the colon.

The American literature reports something like eight cases.

The Doctor also mentioned the usual cause in adults —congenital conditions not prevailing in adults as much as in infancy.

I was glad to hear Dr. Langdon state he used the Murphy button in his anastomosis. It may be more or less obsolete, but in colonic work where you wish to minimize shock and do a rapid resection, I know of no better or safer way than anastomosing with the Murphy button. The danger of obstruction is less. Its trip is nearly completed when it separates.

I believe there is room for more discussion on the paper.

INTERNAL DERANGEMENT OF THE KNEE JOINT*

WITH SPECIAL REFERENCE TO THE COMMONER DISABILITIES OF THE KNEE.

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No disorder of the organs of locomotion permits greater latitude in diagnosis than do disabilities of the knee joint. Therefore, when Mr. William Hay of Leeds advanced the term "internal derangement of the knee" he covered such a wide field of pathological possibilities that physicians of today have not seen fit to replace this term. It holds somewhat the same position in orthopedic surgery that the term "mass in the pelvis" does to general surgery or gynecology.

We consider the term as applying to those injuries of the knee joint that involve the semilunar cartilages, the joint surfaces and their ligamentous structures and other interstructures (fat pads, synovial, etc.). The most important and most common being injuries to the internal semilunar cartilage.

The increasing number of knee joint injuries that we see each year leads to the conclusion that with the many hazards of our present life the possibility of strains and sprains to the knee is more common. Further, neither we nor our patients are any longer satisfied with the snapshot diagnosis of a strained knee for we and they realize that unless accurate analysis of the case is made and appropriate treatment is instituted permanent or long standing disability may result.

A review of the anatomical sketches of the knee is sufficient to re-acquaint one with the structures dealt with in this discussion.

KNEE MOVEMENTS

The knee is considered a hinge joint but according to Fisher there is also a gliding movement with each flexion and extension of the knee. Smilunar cartilages move slightly forward with full extension and slightly backward with full flexion, the external moves back and forth as a whole while only the anterior portion or half of the internal semilunar moves. Further the knee has certain rotary movements in which the femoral condyle glides upon the head of the tibia with forward and backward movements of the knee.

FACTORS CAUSING DERANGEMENTS

With this realization of the various movements of this complicated joint one can more readily appreciate the possibilities of accidents that may occur therein. The external semilunar cartilage is more nearly circular and more loosely attached than the internal. The internal is stabilized in the postero-lateral part with the internal lateral ligament which prevents the posterior portion moving with the knee joint. The anterior horn is attached directly to the head of the tibia in front of the anterior crucial ligament to the transverse ligament and by the coronary ligament to the tuberosity of the tibia.

Although the mechanism or damage force which causes internal derangement is not always the same it seems highly possible from the experience of many who have made extensive study of the knee joint that forced abduction of the knee injures the internal lateral ligaments; forced lateral extension the anterior crucial and forced rotation the internal semilunar cartilage. With the forced rotation there is a grinding of compression force between the tibia and femur and particularly when flexion is a factor, injury to the cartilage is likely to occur. Recalling, therefore, the looseness of the anterior portion and fixedness of the posterior portion of the internal semilunar cartilage one can readily appreciate the reason why so often the anterior portion becomes detached and torn.

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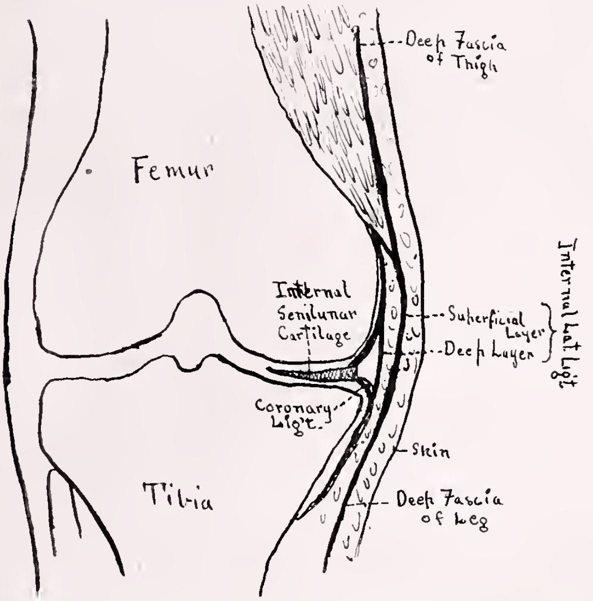
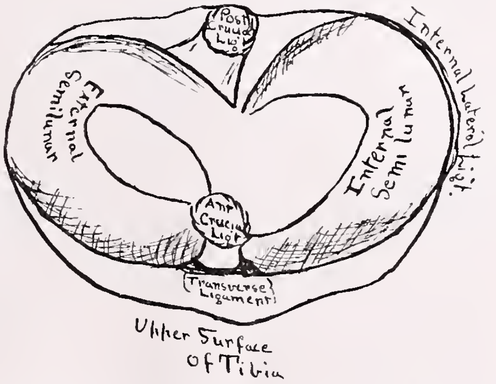


No. 1. Cross section through knee joint particularly referring to internal side of knee, anterior femur cartilage attachment above to the anterior lateral ligament and below to the coronary ligament of the tibia. Also notice how the deep fascia of the thigh goes to form a part of the superficial layer of the internal lateral ligament. (After Bristow.)

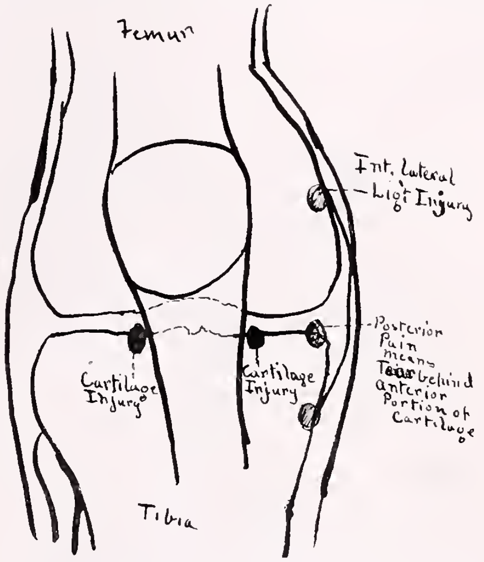


No. 2. Relations of the internal and external semilunar cartilages on the upper surface of the tibia.

Internal derangements of the knee joint are seen in every walk of life, in the young and the old, but more often in men than in women. Among the cases we have had are farmers who were injured by jumping off farm machinery, falling, stumbling while walking over plowed ground, or by any quick, unprotected rotary flexing movement that they might go through in the course of their work. Internal derangement of the knee is common to athletes, particularly football, basketball and baseball players, who, during the unusual stress of the game, such as dodging, whirling, sliding, etc., place their knees in a position of unusual stress. Dancers are very commonly victims of this condition. Automobile accidents in which a car is brought to an abrupt halt, and the passengers sitting with the knees flexed are thrown to extreme positions by the impact often are victims of internal derangement.

HISTORY

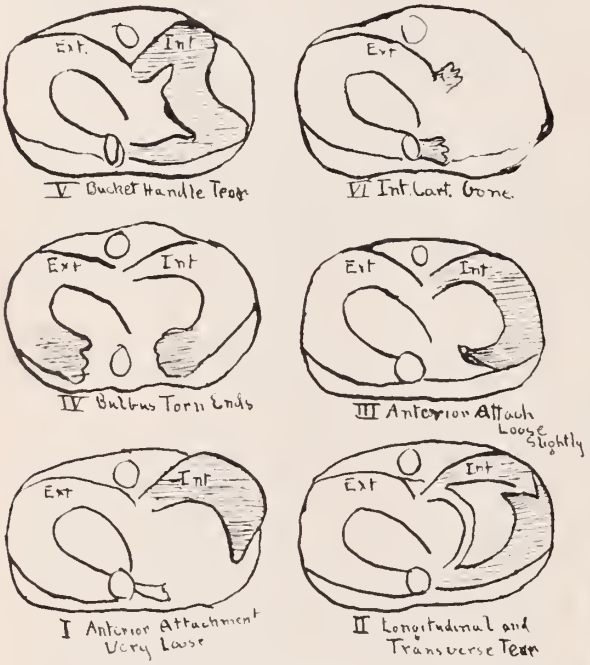
With the factors producing the injury in mind the most essential thing in the diagnosis is a clear accurate history. This is even more important than physical examination. The question of previous accidents to the knee; sequence of events when the accident happened—did something slip or give way in the knee, or did some external force cause the fall. If the former, internal derangement is most likely. The question of locking, the degree of swelling, and the rapidity of the onset are important points. Often the patient will have but a vague understanding of just how and where the knee does hurt, therefore, the accuracy of the history is quite essential. It is not uncommon for this condition to be diagnosed as arthritis of a chronic or subacute nature, or any one of a dozen things due to lack of an accurte history.


Femur
Int. Lateral Lig't Injury
Posterior Pain means Tear behind anterior Portion of Cartilage
Cartilage Injury
Cartilage Injury
Tibia

No. 3. Pain points that indicate internal derangements of the knee.

EXAMINATION

The lower limbs of the patient should be stripped so that a comparative study of both legs can be made, both front and back, standing and lying on a couch, then sitting with the knee flexed. Muscle wasting, swelling, and other unusual conditions should be noted. Next he should be asked to raise the leg with the knee extended whilst the surgeon resists the movement. The joint is then palpated for increased temperature; thickening of the deep structure, the presence of fluid, lateral mobility and antero posterior mobility with the leg in extension should be noted. Next the patient sits with the legs hanging over the side of the table, and the attachments of the ligaments are palpated for possible points of tenderness.


Ext
Int
V Bucket Handle Tear
Ext
VI Int. Cart. Gone
Ext
Int
IV Bulbus Torn Ends
Ext
Int
III Anterior Attach Loose Slightly
Ext
Int
I Anterior Attachment Very Loose
Ext
Int
II Longitudinal and Transverse Tear

No. 4. Diagramatic illustration of various types of cartilage injuries in order of frequency.

When the internal lateral ligament is injured, usually the tenderness is in the femoral attachment rather than the tibial. Full range of active and passive movement should be studied. Finally, the patient standing, should rise on his toes, bend the knees and hop or run on the affected leg.

X-ray examination is a routine procedure although it seldom helps one in the diagnosis of internal derangement due to cartilage injury yet when there is a fracture or other complicating factor of an osseous nature, it is of great help. Even with the most classical symptoms diagnosis may be readily mistaken, for among the condition that may cause similar symptoms are the following and all of these must be considered in every instance:

1. Loose bodies. These cannot be certainly distinguished by the surgeon, not even by the x-ray. Briefly, loose bodies that cause locking are easily reducible as locking lasts but a moment and also the pain may occur in different places at different times in the joint.

2. Quadricep insufficiency, a weak wobbly knee gives way and is untrustworthy and is subject to recurrent attacks of synovitis. Weakness is particularly noticeable when going down stairs or down hill.

3. Nipping of a retropatellar fat pad. This pain at times is similar to that of a loose body. Locking is somewhat indefinite although there is usually not the history of injury. The some holds true of a nipping of a synovial fringe. This, however, is usually of no great importance.

4. Rupture or strain of the lateral ligaments. The pain is usually in the femoral attachment synovitis resulting.

5. Injury to the anterior crucial ligament is associated with injury to the internal semilunar cartilage and is not in itself very disabling.

6. Adhesions is a common complaint following injury to the cartilage. There is a definite relation to the attack. Often occur after operation but are usually dealt with satisfactorily by manipulation.

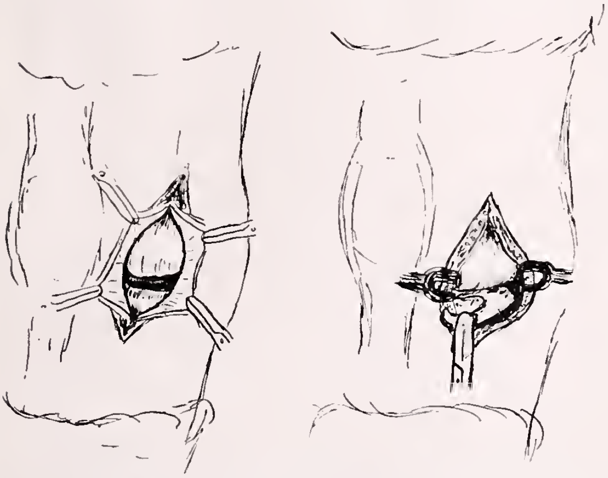
7. Slipping tendon may give rise to symptoms of locking but it is merely momentary and usually leaves no fusion or tenderness in the region of the joint line.

8. Arthritis is always a factor that must be considered in definite internal derangement of the knee due to injury. Symptoms are vague weakness accompanied by pain, stiffness and synovitis, some grinding of extension.

No. 5. Operator sitting in front of patient. Line of incision for the removal of internal semilunar cartilage, it being about one-half to three-fourths inches anterior to the inner border of the patella across the joint about two or two and one-half inches long. Note that the patient's foot is held between the operator's knees, the entire extremity being prepared with sterile drapes. This allows, by movement of the knee, greater vision within the joint.

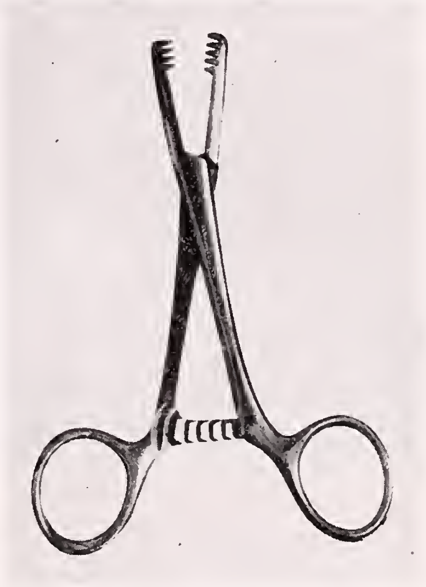
9. Interarticular fracture may be diagnosed from x-ray which is also true of fracture of the patella.

Probably the most common symptom of semilunar injury is locking of the joint so that the leg remains in flexion and cannot be brought into full extension. Often this is merely a dislocation with a slight tearing and when acute it is possible by manipulation to bring about a restoration of position. The simplest manipulation has proved most successful and has been used by Sir Robert Jones in Liverpool for many years. The operator grasps the leg flexed on the thigh, the patient is told to kick, as this is done the other hand of the operator forcibly makes pressure on the knee as the leg is extended. If the knee is painless upon extension more likely full reduction has been accomplished and with a suitable flannel bandage or caliper splint the patient may be "expectantly cured" and "convalescing" and may go back to do ordinary things. But when the symptoms are persistent, and pain points and tenderness about the knee remain, one may be sure that the condition is not cured, that perhaps the semilunar cartilage is torn and continues to offend the joint.



No. 6. Joint exposed; capsule and deep fascia held back. The anterior attachment cartilage can be seen between the tibia and fibula. The first step is to grasp the anterior end of the internal semilunar cartilage, then push it centrally into the joint which gives the operator opportunity to remove the attachment of the cartilage to the internal lateral ligament. When this is accomplished the cartilage can be displaced fully inward and then with a Martin forceps be drawn out and removed from the joint.

As few cases having tears of the semilunar cartilage get well untreated, conservative treatment is never or seldom, justified. A brace on the knee is the same as a truss on a hernia. Treatment is always surgical and exploration of the joint in the hands of a skilled operator under ideal conditions seldom does harm. With proper after care in the simple cases after removal of the cartilage very happy results may be expected, although when there are present chronic changes which have taken place in the joint due to long continued irritation there are some times, weakness and insecurity of the knee, for a long period but these cannot be attributed to the operation. In 1927 while visiting the various orthopedic clinics of the British Isles I was impressed with the large number of knee joint injuries that they had among their mine workers and football players. Many of these professional foot-ball players had both knees operated on, both sides, external and internal, and still playing a hard rugged game four to six weeks after their last knee joint operation. On returning I have adopted as nearly as possible, the technique and operation used by Sir Robert Jones and Mr. McMurray, Liverpool. A tourniquet is applied to the mid-thigh after the blood has gravitated from the leg. The entire leg from the foot to above the knee is prepared in sterile wrappings. The knee is flexed over the end of the table and the operator seated in front of the leg grasps the foot between his knees. A small incision is made on the inner side, or the outer side, as the case may be, obliquely downward and inward across the joint about one-half to three-fourths inch from the inner border of the patella. A similar incision is made through the deeper structures, fascia and capsule; immediately the anterior portion of the internal cartilage is in view, this is freed if removal is indicated and grasped with a Martin forcep which has heavy teeth and a biting surface of about one-fourth inch wide. The anterior cartilage is displaced inward and the leg adducted and rotated inward being controlled by the foot between the knees of the operator. This brings into view the lateral attachment of the posterior half of the cartilage. Then with a small sharp knife the cartilage is separated from the lateral ligament and entirely displaced into the joint and



No. 7. Martin forceps; Note the teeth which grasp the cartilage so firmly.

drawn forward with a twisting pulling motion, removing it from its posterior mooring. Occasionally the cartilage will tear and a part of the posterior portion is left attached in the joint. Mr. Harry Platt of Manchester emphasizes the importance of removing this and I have followed this principle with great satisfaction. In that instance* a postero-lateral incision is made to approach the back of the joint and the remainder of the cartilage is readily removed. The wound is closed and the layers of cut capsule edges being everted in order that only a smooth healing surface may present itself in the joint. Cotton batting or sheet wadding is then wrapped firmly well up the thigh and down to the middle of the leg, the tourniquet is removed, the patient put to bed for a week or ten days, movement limited only by the dressing and cotton about the knee joint. At the end of a week the patient is allowed to be up with similar dressing. Perhaps a caliper splint may be worn for a couple of weeks if there is much quadriceps weakness. The splint is always taken off when the patient is in bed and movement is encouraged as bending the knee fully and strengthening of the muscles is essential to a good result. Within a month or six weeks with massage, diathermy and other physiotherapeutic measures normal function should come to the joint.

DISCUSSION

J. P. LORD, M. D., (Omaha): Mr. Chairman, Fellows, and Guests: I accepted this invitation to discuss this paper with alacrity, but there is not much to discuss with the thorough presentation the Doctor has given us of the anatomy, physiology, and etiology of these conditions.

I want to make only some general reflections on this subject. It is very important to have this groundwork for proper diagnosis of these conditions, as you will now recognize since this presentation. That is most essential. Bearing this in mind, of course, you general practitioners will more readily sense what has taken place in these various injuries in the knee. This will enable you perhaps better to advise these patients.

There is a traditional fear of operative attack upon the knee. Because of this traditional fear that pervades the laity and still pervades the profession, and because of another factor—the loathness with which those in charge of compensation cases recommend surgical intervention—we are very apt to treat these cases for a time that is ordinarily very much too long. There is a lot of time wasted because of this background of these cases.

The profession was a long time afraid of entrance of other cavities of the body. The knee, however, has been a place where everybody has been more or less hesitant about operative intervention, exploration, because many dreadful accidents have happened from surgical intervention of the knee. Not only because it is prone to infection, but because of the small incisions, the very considerable degree of traumatism, and the great length of time expended with operative work under these difficulties, these cases have been rendered prone to operative mishaps, notably infection.

With our standardized methods of operation in standardized hospitals, and operators who "know their onions", the knee has not been considered any more dangerous for operative attacks than other joints. Those familiar with the orthopedic game know all joints are attacked with the same impunity the general surgeons operate within the abdomen, doing exploratories if necessary.

With conditions as obscure as these, we should no longer hesitate to do exploratory work within the knee. Done under proper conditions, it is safe. That knowledge should help us to intercede for these crippled people and not allow them to go on for months and years with disabled knees when operative attack is so simple, so efficient, and when properly handled with early use and physical therapy, these prompt recoveries are made, and the brilliant results as exhibited by Dr. Thomson who so ably presented this subject.

CERTAIN CLINICAL AND PATHOLOGICAL ASPECTS OF RENAL MALIGNANCY, WITH SIX AUTOPSIED CASES**

B. CARL RUSSUM, M. D., AND FRANK A. NEISIUS, PH. B.,
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Since 1883, when Grawitz(1) showed that the yellow tumors of the kidney had a structure resembling the adrenal cortex, there has been much controversy over the histogenesis and proper classification of these growths. In 1892 Birsch-Hirschfeld(2) called the yellowish tumors "hypernephromata", and this term was extended by some to include almost all renal growths. This conception was soon attacked, by Sudeck(3) in 1893 and by Stoerk(4) in 1908, who pointed out that the features of such tumors supposed to characterize origin from misplaced adrenal tissue, were exhibited by tumors of undoubted renal origin. As a result there was much scepticism concerning hypernephromata, some writers even denying the possibility of such growth. Wilson(5) in 1911 concluded that most so called "adrenal rests" are probably of Wolffian origin; that there is almost no histological or embryological evidence that hypernephromata arise in adrenal rests; that there is much evidence that hypernephromata do not arise from adult secreting epithelium of convoluted tubules; and that there is much evidence that hypernephromata arise from islands of nephrogenic tissue persistent in adult life.

The present belief is that there are both carcinomata and hypernephromata of the kidney, the former more frequent. In spite of this belief there is still much confusion in the literature, and one can scarcely gain a clear idea of percentage occurrences, because the fairly frequent case reports fail to clearly distinguish the two types. Stevens(6) has recently reviewed 413 cases in the literature in an effort to determine a differential diagnosis. He classified 86 of the reported cases as carcinomata, 215 as hypernephromata, and 47 as tumors of the renal pelvis. Hyman(7) made a clinical study of 70 renal neoplasms, 44 of which he classified as hypernephromata, and 7 as carcinomata. He found that over 50% of the tumors occurred in the fourth and fifth decades, were seen especially in males, and three were associated with stones. The hypernephromata produced slow growths, late cachexia, single metastases, and there were long intervals between attacks of hematuria. In carcinomata the tumor was small, the course rapid, and there were multiple metastases. The renal vein was involved in 20 cases, most commonly in the hypernephromata. Roth and Schwoerer(8) analyzed 38 cases, and found hematuria, pain, and tumor associated in 50%. Dies(9) comments on the rarity of primary carcinomata of the kidney, and reports one case of adenocarcinoma removed surgically.

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*With the patient lying on the side, the knee slightly flexed.

**From the Department of Pathology, Creighton Uni. School of Medicine.

Thus far attempts to differentiate carcinomata from hypernephromata have not been successful when chemical and embryological data have been the basis. The structural differences are at present the only available means, and it is by these differences that the differentiation is made by Ewing(10). Rose(11) examined twenty-three museum specimens, and was able to follow twelve in detail. Of these he classified five as hypernephromata and seven as carcinomata, solely on the structural basis. All those patients whose tumors were classified as hypernephromata were found to be alive, while those who had the carcinomata were all dead. The chief points of difference between a hypernephroma and an adenocarcinoma are summed up as follows by Boyd(12): 1. Adrenal tumor has central fibrous core and more cellular periphery. 2. Adenocarcinoma more markedly lobulated and contains numerous small cysts filled with clear fluid. 3. Presence of lumina is characteristic of adenocarcinoma. 4. Marked papillary arrangement characteristic of adenocarcinoma. 5. Foamy cytoplasm of hypernephroma contrasts with clear cells of common type of adenocarcinoma. 6. In adrenal growths there is very loose relation of cells to one another and to the stroma.

Six malignancies of the kidney, encountered in the last 961 autopsies at St. Joseph's and Douglas County Hospitals, are here recorded. Even in this small group are found clear cut advanced cases easy of diagnosis, and those obscure conditions diagnosed only at autopsy. Four of the tumors have been classed as adenocarcinomata, and two as hypernephromata. The principal differential points were the presence of tubular and papillary formations in the microscopical picture of the carcinomata; in those classified as hypernephromata the absence of such formations, together with the arrangement of large clear cells in broad sheets separated by an abundant network of capillaries, were the deciding factors.

CASE REPORTS

Case I. (R-7, 1926). E. C. B., a white male aged sixty-eight, was admitted to Douglas County Hospital, Oct. 6, 1923, on the service of Dr. J. F. Langdon, complaining of a large mass in the left upper abdomen of five years duration, with weakness and general disability. Five years before, while urinating, he passed a large quantity of blood. Examination by physicians at the time disclosed the mass. The hematuria has recurred at intervals of three to five weeks, causing general weakness, extreme prostration and headache, but no abdominal pain.

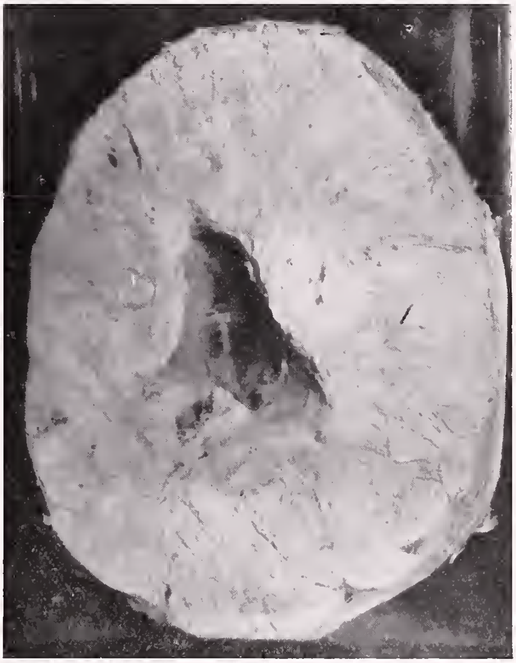

Fig. 1. Tubular adenocarcinoma of left Kidney from Case I. R. 7,—1926.

The only interesting item in his past history is a traumatic rupture of his urinary bladder eight years ago. At that time the bladder was repaired surgically and no abdominal tumor was noted.

Physical examination on admission to the hospital revealed a large, firm, smooth mass filling the upper and part of the lower left abdomen. The mass was fairly movable by manipulation, but did not move with respiration; a notch could not be felt over the mass, which was dull to percussion. The blood count revealed only a secondary anemia, and the only abnormal finding in the urine was the presence of pus cells. He died February 2, 1926.

Anatomic Diagnosis, (Dr. E. Ruckensteiner): Adenocarcinoma of left kidney; bronchopneumonia of lower lobe of each lung; athero-sclerosis of aorta; arteriosclerosis of kidneys and brain; old herniotomy wounds, bilateral, inguinal; old laparotomy wound, hypogastric region; shortening of right lower extremity.

Necropsy: In the left upper abdomen was a firm mass reaching a hand's breadth below the costal margin. The splenic flexure of the colon lay in front of and was slightly adherent to the mass. The mass was kidney shaped and 22x16x8 cm, incased within a gray capsule, and has a slightly undulating surface.

On section there was found a central cavity seven cm. long, encircled by a layer of tawny yellow tissue splotched here and there with opaque gray to orange-yellow opacities up to one cm in their greatest measurements and with wavy outlines. The bulk of the tumor gave the impression of a papillary growth held together by strands of semi-translucent whitish tissue extending from the borders of the central cavity to the periphery. In the central space was gelatinous fluid. Near the upper pole was an irregularly outlined cyst with similar contents

In paraffin sections stained with haematoxylin and eosin, made from the tumor mass, there were tubules lined by tall, cylindrical epithelial cells, which were in some regions pale pink and finely granular, and in other regions deep pink. There was a well developed stroma and blood supply. Some regions were necrotic. In scattered regions the tumor cells were smaller, rounded, and grew diffusely. Tumor tissue invaded the renal pelvis. Many glomeruli in the remaining kidney tissue were fibrosed, and there was diffuse mononuclear infiltration of the stroma between the tubules. The renal tubules had also atrophied and there were many hyaline casts in the tubules. The blood vessels were thickened.

In another portion of the tumor mass there were masses of tubules with only minute lumina, surrounded by tall cylindrical cells tapering towards the lumina. The tubules strikingly resembled renal collecting tubules.

Sections from other organs demonstrated an arteriolar disease of the right kidney; passive congestion of the liver with some chronic hepatitis; senile atrophy of the spleen; small papillary adenoma and senile atrophy of the pancreas.

COMMENT

The outstanding clinical features here are the presence of a tumor mass for five years and the history of hematuria. There was lacking only pain to complete the triad of classical symptoms. Cachexia developed as usual. The absence of metastases at postmortem is noteworthy, with so long a history. Hematuria is the most common predominating symptom, usually intermittent, ceasing spontaneously, and recurring at intervals of weeks to years. Sometimes the bleeding is profuse, even producing exsanguination or death. The bleeding here was painless, and when pain does occur with the bleeding it is usually due to blood clots occluding the ureter.

The tumor mass was described in the physical examination as "large, firm, and smooth". The size of these growths varies from a small nodule found only at autopsy, to a large, hard, nodular adherent mass.

We have classified this growth as a Tubular Adenocarcinoma because the histological picture resembles so closely the convoluted tubules of the kidney. It is thought that this type of growth originates from well differentiated renal tissue.

Case 11. (A-432). L. G., a housewife, aged fifty-two years, was admitted to St. Joseph's Hospital, Sept. 30, 1924, on the service of Dr. A. Sachs. She stated that she had noticed a large mass in the left abdomen three months before, and even previous to that she had pain in the left chest, passing to the axilla and back. After she noticed the tumor the pain became worse on lying down. In three months her weight had dropped thirty-seven pounds, while the mass had increased in size. She has coughed up a little mucoid sputum at times.

On admission she was somewhat emaciated and there was an irregular nodular mass in the left upper abdominal quadrant. There was a marked secondary anemia. The leucocytes of the blood were 4800, with 78% polymorphonuclear neutrophiles. The urine contained some albumin and, some red cells and many leucocytes. Pyelograms (Dr. J. F. Kelly) of the left kidney and ureter revealed shadows of what appeared to be two pelves with major calyces, one very high and one very low; the left ureter was slightly dilated and tortuous. An opaque catheter reached the level of a normal kidney on the right. Cystoscopic examination (Dr. Charles McMartin) revealed two small nodules, each one-half as large as a pea, inside the bladder, about the left ureteral orifice. Catheters were passed easily up each ureter; urine came freely from the right kidney, scantily from the left. Phenolsulphonephthalein injected intravenously showed in five minutes on the right side, and barely showed in seventeen minutes on the left side. On the left side eighteen cubic centimeters of 17.5 per cent sodium iodide elicited some distress.

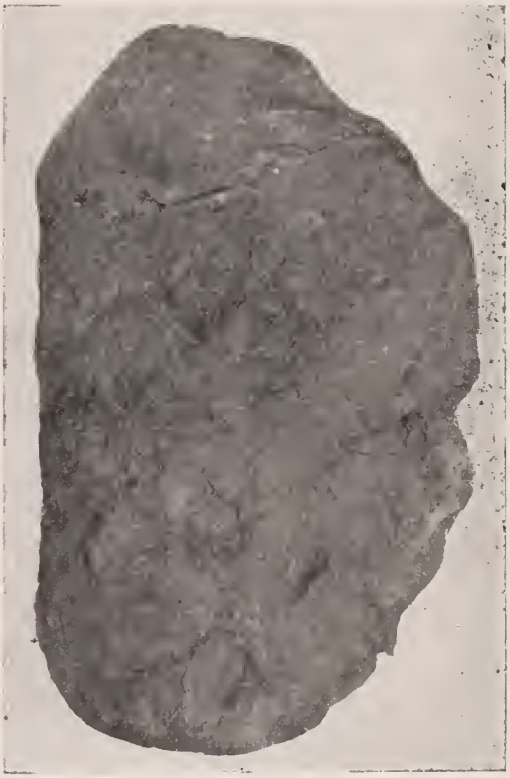

Fig. 2. Papillary Adenocarcinoma, Granular Cell Type, Left Kidney. A432.

At operation Dr. C. McMartin reported "Large palpable mass in left side of abdomen, extending up under ribs. This mass had only a slight layer of perinephric fat about it, bled very easily from superficial veins, and was adherent to the peritoneum. It was about the size of a large grape fruit. On removing this kidney found another mass on this side, the lower pole of which was slightly softened, probably affected by same condition. Cortex bled profusely."

Description of Tissue Removed: (B. C. R.) "Ovoid, encapsulated, mass resembling kidney in shape, and eighteen cm. long. On section mass is composed of necrotic, gray to yellow, soft tissue with fibrous trabeculae. No kidney structure visible."

Microscopical: Dense interlacing papillary masses composed of fibrous tissue stalks covered with tall, cylindrical epithelia. Extensive hemorrhages. Invasion of stalks by cells. In places a gland like structure. The cylindrical cells are granular. No kidney structure present."

Diagnosis: Papillary adenocarcinoma originating in kidney.

Anatomic Diagnosis: (B. C. R.) Papillary adenocarcinoma of left kidney, with metastases to periaortic lymph nodes, liver, and right ribs; tumor compression of aorta inferior vena cava, left renal and ovarian veins; pretibial edema; fibromyomata uteri; senile atrophy of ovaries; atherosclerosis of aorta; recent loss of panniculus; gold crowned teeth in lower jaw; upper teeth long since missing.

Necropsy: In the left renal region there was a tremendous nodular tumor mass pushing the peritoneum forward, extending downward to the left pelvic brim, compressing the aorta, inferior vena cava, and both common iliacs, while the left ovarian vein lay stretched across its anterior surface. To the left of the mass was a gauze packed cavity (recent operative field). At the upper posterior pole of the tumor mass was the left adrenal, which could be dissected free from the tumor. The tumor mass was lobulated, the individual lobules being up to 2 cm. in diameter, gray to yellow and friable. Some regions were very soft and necrotic, but there were no well defined cysts or hemorrhages. Fibrous trabeculae separated the lobules. No kidney tissue was identified.

Paraffin sections stained with hematoxylin and eosin, made from the tumor mass in the left renal fossa, revealed a papillary growth consisting of fingerlike projections covered with granular, cylindrical epithelium, like the specimen removed surgically. Sections made from the mass at the hilum of the kidney, and from the nodules in the ribs, had the same structure.

COMMENT

This was the most typical papillary carcinoma of the series. By reason of its lack of hemorrhage, and the type of granular cell this tumor has been classed as a papillary adenocarcinoma with granular cells. This type of growth may arise in sclerotic or otherwise normal kidneys. The remaining kidney in this patient was essentially normal, so we feel that probably this tumor arose in a kidney which was not sclerotic.

This patient presented two of the classical signs of renal malignancy—tumor and pain. The pyelograms of the left kidney are important, and pyelography is one of the most valuable diagnostic aids. Encroaching as they do in many cases on the renal pelvis it is evident that they will cause there a deformity, although the deformity does not always indicate the type of tumor. The pyelograms here revealed what appeared to be two pelves, and although the roentgenologist did not name the type of growth he did report a deformity of the pelvis. Braasch(13) has stressed the use of pyelograms in a monograph. Eisendrath and Koll(14) present some interesting observations on the value of pyelograms in kidney tumors.

The tendency of these tumors to metastasize is well known, involvement of the bones being especially frequent. In this patient the ribs, liver and periaortic lymph nodes were involved.

Case III. (R. 80, 1926). A. A., a spinster of 49, entered the Douglas County Hospital, May 3, 1926, complaining of swelling of the left side of her abdomen, cough, swelling of the feet and ankles, and weakness. These symptoms began about three months ago. A year ago she had an attack of severe pain in her left kidney region, with hematuria, and was told by a physician that she had ureteral colic. Even then she says she noticed a swelling in the abdomen and a cough.

She was emaciated, weak and anemic. A large smooth, kidney-shaped mass could be seen and felt in the left side of the abdomen extending from the rib margins to the crest of the ilium. The mass was immovable and there was much tenderness on deep palpation. Both feet and legs were edematous, and the urine contained a few leucocytes and a trace of albumin. There was decreased resonance over the lower lobe of each lung, and a systolic apical mitral murmur.

A cystoscopic examination was made by Drs. Russell and Rabkin with the following report: Both ureters catheterized. The right ureter was entered with no difficulty. The left, however, would only allow the catheter to be introduced about half way, when it apparently reached an obstruction that could not be overcome. In attempting a pyelogram, the pelvis appeared normal, while the left pelvis, could not be entered and showed the ureter to be pushed to one side medially and lost at about the fourth lumbar segment. No urine was secured from the left ureter. Phenolsulphonephthalein given intravenously showed 25% the first half hour from the right ureter and none from the left."

Anatomic Diagnosis: (Dr. M. E. Lathrop). Hypernephroma of left kidney with metastases to lungs, liver, and spleen.

Necropsy: The abdominal viscera were pushed to the right by a large, hard, kidney-shaped mass which was attached to the region of the left kidney, practically filling the entire left side of the abdomen, extending well past the midline, and so adherent to the bowel that it was necessary to dissect a part of the bowel from it. The mass was found to be the left kidney, and from it there were two ureters leading down to the bladder. On section the tumor mass was for the most part pale yellow, made up of regions of yellowish, somewhate spongy tissue from one to three cm. in diameter, separated by pale bands or wedges of semi-translucent tissue which are apparently the remains of renal papillae, with their longitudinal striations and tapering points, opening into the remains of major calyces. Some regions are brighter yellow, opaque, and evidently necrotic, while others are large scars. Inasmuch as the ureters passed beneath this mass they were flattened by its weight. The right kidney seemed normal. The postperitoneal glands running along the large blood vessels were greatly enlarged well up past the diaphragm."

In paraffin sections stained with hematoxylin and eosin, made from the tumor mass, it was seen to be made up of strands and sheets of very large, clear cells; duplicating in some regions the zona fasciculata of the adrenal. The predominating picture, however, was large circular groups of large granular cells, the groups being separated by thin strands of connective tissue. The cells had dropped out from the centers of many such collections. Some cells were multinuclear, and some contained large vacuoles. There were scattered bits of renal tissue containing some glomeruli, scarred remains of pyramids, areas of fibrosis, and of necrosis. In some regions were deposits of calcium and scattered hemorrhages. Nowhere was seen papillary or gland formations, and the cell collections resembled in different places all three zones of the adrenal.

In the lumen of the splenic artery was a bit of the same type of tissue making up the original tumor, while the surrounding splenic tissue was necrotic. In the lung there were nodules of tumor tissue. In the right kidney there was a small papillary adenoma.

COMMENT

This patient presented the three classical signs of renal malignancy with the common later signs such as cachexia and secondary pressure symptoms. Ureteral catherization proved helpful. Phenolsulphonephthalein injected intravenously was not excreted on the left side. Functional tests such as phenolsulphonephthalein and indigocarmine usually reveal a decreased or absent function on the involved side, but are not in themselves of differential diagnostic importance.

Her course, with the development of a severe cough and bloody expectoration, suggested lung metastases, verified at autopsy. The tumor in this patient was diagnosed as hypernephroma because of the histological picture, with the sheets of large clear cells, in places duplicating the zona fasciculata of the adrenal.

Case IV. (R. 27, 1926). E. C., a merchant of 73 years, was admitted Dec. 30, 1924, to St. Joseph's Hospital on the service of Dr. E. A. Connolly, complaining of vertigo and weakness. He had been in the hospital the previous January because of loss of weight and weakness. At that time he vomited, usually after meals, or in the morning on arising. For eight years he had had hemorrhoids, and occasional blood in the stool. He was discharged from the hospital with a diagnosis of a secondary anemia, hyperchlorhydria and bilateral indirect inguinal hernia.

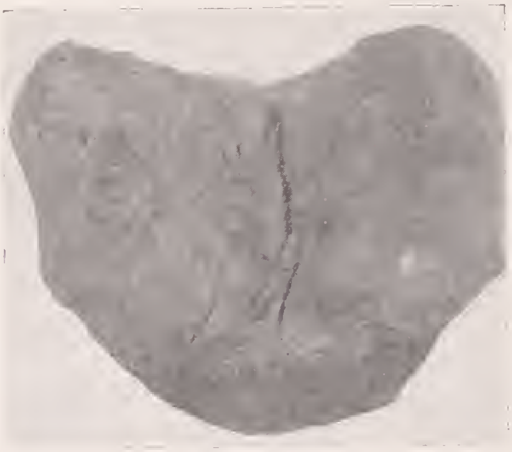

Fig. 3. Hypernephroma, Left Kidney. R 27—1926.

He was readmitted December 19, 1925, with the same complaints. At that time the hemoglobin was down to 40%, and the red cells were 2,960,000.

On his final admission the hemoglobin was as low as 30%, the red cells 2,160,000, and the white cells from 4,800 to 7,200, with 56 to 70% polymorphonuclears. The blood pressure varied from 100 to 80 systolic, and between 60 and 48 diastolic, and did not respond to adrenalin therapy. There were occasionally a few pus cells in the urine and twice there were a few red cells. Roentgenograms (Dr. A. F. Tyler) of the colon revealed no filling defect. A few days before death a mass could be felt in the left upper quadrant, and he developed pigmented areas on the buccal mucosa.

Anatomic Diagnosis: (B. C. R.). Hypernephroma of left kidney; general emaciation; atherosclerosis of aorta; hemangiomata of small intestine; old bilateral inguinal herniotomy scars; edema of both legs; pyorrhoea alveolaris; long since missing teeth; canities.

Necropsy: (Limited to Abdomen). Abdomen scaphoid shape. In the small bowel there were a number of red spots seen from the surface. These spots were up to 8 mm. in their greatest measurement, and were scattered along the ileum. The spleen was twice the normal size, and there were fibrous thickenings of its capsule. The abdominal aorta was markedly sclerosed and contained many calcified plaques.

There was a large mass at the site of the left kidney, measuring 10 cm. up and down, with here and there some translucent regions, and small cysts, and occupying all but a little of the lower pole of the kidney. At its lower border lobules of the mass seem to invade the remaining kidney tissue. The left adrenal was free from the mass. The other kidney was somewhat granular, and the capsule tore away some of the cortex on stripping. On section the blood vessels of this kidney were somewhat sclerosed. The ureters and pelvic viscera were unchanged.

On opening the bowel, the red regions seen from the surface are seen to be due to soft, dark, red masses bulging into the lumen.

In paraffin sections, stained with haematoxylin and eosin, made from the tumor mass in the left kidney, there are large clear cells filling spaces or arranged in cordon formation, and separated by thin capillaries, or single strands of fibrous tissue. Large regions were composed of dense white fibrous tissue and infiltrated with small mononuclear wandering cells. There were areas composed of kidney tissue, with fibrosed glomeruli and tubules containing hyaline casts. In other sections the tumor tissue was composed of many large mono and multi-nucleated cells in addition to the large clear cells. There was no definite tubular or papillary formation. There were many necrotic regions.

Similar paraffin sections made from other locations, revealed hemangiomata of the submucosa of the small intestine, and pronounced amyloid changes of the liver, spleen, and right adrenal.

COMMENT

This patient first complained of symptoms referable to anemia, and had no complaint or physical finding suggesting a kidney lesion. His general appearance was one suggesting malignancy, however. Cachexia, generally a late manifestation, appeared in this man before the onset of hematuria and the discovery of a tumor mass. His low blood pressure directed suspicion toward his adrenals, and because coupled with the pigmented areas in the mouth, Addison's disease was considered. The amyloid changes found at autopsy were apparently associated with the low blood pressure. The occurrence of a second type of tumor, the hemangiomata of the small bowel, is of interest.

There were no intra-abdominal metastases, and we were unable to search further, since permission was granted for limited examination of abdomen only.

We have classed this tumor as a hypernephroma because the cells are large and vaculated, they are arranged in cordon formation, and the cordons are separated by thin capillaries, while tubules and papillary formations are missing.

Case V. (S. A. 30, 1925). D. V., a man of sixty-five, was admitted to the Douglas County Hospital, August 23, 1925, complaining of difficulty in urinating for the past two years. At first the stream was slow, and gradually grew smaller. There was occasional burning. Gradually frequency developed, but the stream would only start after a few minutes, was then only the size of a needle, and the total amount voided only three ounces. There were shooting pains in the perineum. Finally he could not void at all, and was catheterizing himself five times daily.

About eight months before entrance a painless lump developed on the left side of the neck. It slowly enlarged, was movable, and was apparently in the left inferior deep cervical lymph nodes. When he first noticed the mass, it was the size of a hazelnut. Four months ago a piece was removed for examination, since which time the mass had grown rapidly, until at the time of admission it was blue-red, painful, throbbing, and the size of an orange. The other lymph nodes of the neck enlarged, and he could scarcely move his head. In addition a similar mass appeared on the right side, was growing rapidly and becoming blue-red.

On admission to the hospital he was unable to turn his head, and wanted the house physician to incise the mass on his neck "to let out the pus". The posterior cervical nodes were enlarged on each side. The deep left cervical nodes were enlarged to an orange-sized, hard nodular mass adherent to the shiny, blue-red skin. A somewhat smaller mass was present in the right side of the neck. The axillary and inguinal glands were palpable. The prostate gland was greatly enlarged, especially in the middle lobe, but was smooth, firm, regular, and quite tender. The urine contained a trace of albumin and a few leucocytes. The blood Wassermann was two plus positive.

A piece of the mass in the neck, excised for examination, was reported as a malignancy of unknown origin. He died October 22, 1925.

Anatomic Diagnosis: (B. C. R.). Primary papillary adenocarcinoma of right kidney with invasion of right adrenal; metastases to retroperitoneal and cervical lymph nodes; bronchopneumonia of lower lobe of each lung; benign hypertrophy of prostate gland.

Necropsy: The mass at the site of the right kidney was 14x9x7 cm. The capsule stripped readily, leaving a cortical surface mottled here and there with yellow spots one to two mm. in diameter; in many places the spots were grouped together in clusters. The adrenal was closely attached to the upper pole, which was enlarged by the presence of a nodule occupying most of the upper half of the kidney. On section this nodule was practically spherical, six cm. in diameter, extending from the outer margin inward; and separated from the inner border of the kidney by about three cm. of kidney tissue; it was contained within the kidney substance on the outer side, but faded off indefinitely on the inner side. The surface of the mass made by cutting, was made up of light yellow or gray opaque areas from one mm. to three cm. in diameter, surrounded by semi-translucent bands of gray tissue. In the largest of these regions the tissue was soft and easily fell out on manipulation. There were no cysts, and only one region six mm. in diameter, red apparently from hemorrhage. The tumor tissue seemed directly continuous with the adrenal. There was a gray to yellow spongy mass of tissue at the hilum of the kidney, surrounding the ureter and renal vessels, but the vessels themselves were not invaded.

In paraffin sections stained with haematoxylin and eosin, taken from the tumor mass in the right kidney, the structure was papillary, with here and there gland-like spaces containing large cells whose cytoplasm was quite pink. There were large necrotic regions. In many portions of the section the cells were clear, lying in single layers on the papillae. Elsewhere the cells were darker and finely granular. In the kidney substance near the tumor were collections of small mononuclear cells. Similar sections from a nodule in the perirenal tissue showed it to be made up of diffusely growing, rather large, rounded and polygonal cells with large vesicular nuclei, with an occasional gland acinus lined by cuboidal cells. The stroma was quite variable and the tumor quite vascular. In sections of the periaortic nodules there were dense masses of lymphoid tissue, the remains of lymph nodes, with large necrotic zones, and many spaces partially filled with rather acidophilic cells lying in groups, and apparently portions of papillae. Some of the spaces were lined by low cuboidal epithelium.

Sections of other organs revealed a benign hyperplasia of the prostate, including both middle and lateral lobes; nodular cystitis; amyloid changes of the spleen; suppurative pyelonephritis, left. Careful study of the right adrenal demonstrated an invasion of its medulla by the primary tumor.

COMMENT

For the diagnostician this case is more obscure than any preceding. The leading symptoms were those due to prostatic hypertrophy. Masses in the neck would lend weight to the supposition of a primary malignancy in the prostate, with metastases. Biopsy did not clear up the problem. The classical symptoms of hematuria, pain, and tumor mass were absent. We have classed this tumor as a papillary-adenocarcinoma with granular cells.

Case VI. (A-413). M. K., a male packing house laborer of sixty-two, entered St. Joseph's Hospital, July 7, 1924, on the service of Dr. B. M. Riley, complaining of pain in the right arm and chest, cough, and dyspnoea, of six weeks' duration. Shortly before the onset of the above symptoms, he noticed a mass beneath his right arm. He had lost twenty pounds and was so dyspnoeic he could scarcely walk. He had an injury to his right chest two years ago, but did not have any evidence of lung injury.

Examination on admission revealed an emaciated man with rapid respirations largely diaphragmatic. In the right axilla was a firm mass. Resonance was impaired over both bases, and musical inspiratory rales were heard over the right axilla and lung base. The sputum was blood streaked. The blood revealed a secondary anemia. Roentgenograms of the chest (Dr. J. F. Kelly) revealed considerable mottling throughout both chests suggestive of tuberculosis or syphilis rather than malignancy. The urine was normal.

Anatomic Diagnosis: (B. C. R.). Primary carcinoma of left kidney with metastases to retroperitoneal and mediastinal lymph nodes, lungs, adrenals, liver, and parietal pericardium; metastatic carcinomata of sixth and seventh right ribs in axillary line, with pathological fracture at site of metastasis in the latter; compression and erosion of right bronchus by tumor of peribronchial lymph nodes; hydrothorax, left; general emaciation; fibrous pericarditis; long since missing teeth; pyorrhoea alveolaris.

Necropsy: The axillary lymph nodes were palpable and up to five mm. in diameter. In the right axilla there was a tumor mass measuring five cm. up and down; the mass was firm and felt like cartilage in its lower half. The periaortic lymph nodes were up to two cm. in their greatest measurement, were hard, gray, and opaque on section; they compressed the inferior vena cava and aorta. There was a large hard mass at the upper pole of the right kidney, involving the upper half of the kidney and the lymph nodes at the hilum. On section the mass was hard, gray to yellow, and opaque. Both lungs were riddled with shot-like nodules about one mm. in diameter. There were similar nodules in the anterior surface of the pericardium. On section the nodules in the lungs were gray and opaque, and some were quite soft.

In paraffin sections, stained with hematoxylin and eosin, taken from the tumor mass of the left kidney, there was a diffuse growth of polygonal and spindle shaped cells through the kidney substance. The structure was distinctly papillary in places, the papillae being covered with granular polygonal cells. Some of the epithelial cells covering the papillae were large and round. There were compression of kidney tubules, dilatation of glomerular spaces, scattered areas of hyalinization, and edema.

In sections of the peribronchial and periaortic lymph nodes, liver and thymus, there were areas of similar papillary tumor tissue.

Sections from other locations revealed arteriosclerosis of the aorta, brown atrophy of the myocardium, senile atrophy of the spleen and testes, and chronic glomerulonephritis. The esophagus, pancreas, and gallbladder were histologically unchanged.

COMMENT

The first symptoms in this patient were due to intrathoracic metastases. The clinical picture simulated a primary carcinoma of the lung, and is the most obscure of the series from a diagnostic standpoint.

There were no findings pointing toward the kidney. The urine was normal. In Hyman's series 20% already had metastases when first observed. In two of his cases, as in this patient, and the one preceding, the picture was dominated by the metastases. The long bones, lungs, liver and brain are favorable sites for metastases. In this patient all except the brain were involved. This was another of the papillary type of tumors, an adenocarcinoma with granular cells.

SUMMARY

Four carcinomata and two hypernephromata of the kidney, occurring in patients varying in age from 49 to 73 years, are recorded with autopsy findings, in the order of ascending difficulty in clinical diagnosis.

Even in this small group are presented a wide range of clinical pictures, varying from the easily diagnosed cases with mass, hematuria and pain, to that where metastases were the outstanding features, and the tumor was found only at autopsy.

The size of the tumor and the occurrence of metastases in this group were not reliable guides in differentiating carcinoma from hypernephroma.

Pyelograms proved of value, in diagnosing the presence of a distortion of the renal pelvis. In two patients the P. S. P. test revealed a practically absent function in the involved kidney.

In two cases, both carcinomata, there were metastases in the ribs. In three patients there were metastases in the liver.

The time intervening between onset of symptoms and death varied from six weeks to five years; in the latter case a carcinoma was found, with no metastases. In the former case a carcinoma was found, but the metastases caused the presenting symptoms.

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REQUEST FOR SPEED

Robert, aged six, ardently desired a sister, and was told that if he prayed for one a baby might come. So he added to his nightly prayers petition for a little sister.

Results not coming as soon as he wished, one night he added:

"If you have a baby almost finished don't wait to put in her tonsils or appendix, as they usually have to be cut out, anyhow."

HYPOSENSITIZATION IN THE TREATMENT OF ASTHMA DUE TO ANIMAL HAIRS: CASE REPORTS

J. E. MEYER, M. D.,
Columbus, Nebr.

The present day treatment of bronchial asthma naturally falls into two divisions, viz: Specific and non-specific. The former has as its aim the finding and, where possible, the removal of the exciting cause. Removal of the cause may be comparatively easily accomplished where the offending agent is a food or some protein with which the patient does not necessarily come into contact in his daily life. When, however, the patient must of necessity come into daily contact with the causative agent, some other means of remedying the situation must be sought. This problem is frequently found in persons who reside on the farm and who are sensitive to the hair or dander of some indispensable domestic animal or animals.

The accompanying report will deal with several such cases, and the means by which an attempt has been made to meet the problem with specific treatment. The term "hyposensitization" has been used instead of the commonly employed term "desensitization" because it would seem that permanent desensitization is rarely accomplished by artificial means.(1)

Case 1. This boy was 13 years of age when he came under my observation in 1924. Onset of his asthma occurred when he was 4 years of age. He had what was at first supposed to be pneumonia, but after several attacks the diagnosis of bronchial asthma was made (this is a common history in children). In spite of the fact that he had been constantly receiving medical treatment, neither the severity nor the frequency of the paroxysms had been affected. His parents stated that during the preceding nine years there had not been a week in which he was free of asthma. The individual attacks lasted from ½ to 6 hours and were more intense in the spring and fall. Physical examination revealed no abnormality beyond general under-nutrition (weight 64 pounds) and possibly infected tonsils. Skin tests with a large number of pollens, foods and miscellaneous proteins showed slight reactions to wheat and rabbit hair, and moderate to goose-feathers, duck feathers and horse dander. Feather pillows were removed from his bed and wheat eliminated from his diet but the asthma persisted. Skin tests with horse dander were repeatedly found to be positive, and since other means of treatment had failed to give relief, hyposensitization was begun. After the fourth dose of 1:100,000 extract of horse dander the attacks ceased. The horse dander extract was given hypodermically at weekly intervals for six and a half months. At my suggestion a month after completion of the series of horse dander injections, the tonsils were removed (May 25, 1925). In September, 1925, he had a mild attack of asthma. Skin tests showed a more marked reaction to horse dander than was present originally. Following a severe attack of asthma the injections of horse dander were started again. The asthma ceased but reappeared in September, 1926. The attacks were very mild and occurred only on Saturday and Sunday when the boy returned from his boarding place in town to his farm home. Skin tests showed a slight reaction to horse dander and a moderate reaction to corn pollen (this substance had been omitted in former tests, but other pollens constantly failed to react). As the attacks were mild and easily controlled by ephedrine no further treatment was given. In December, 1927, he came in for a Shick test and when the Shick test proved positive he was given toxin-antitoxin using a goat serum preparation. Before the injections of toxin-antitoxin were started, skin tests were done with common agents causing asthma and only rabbit hair (one plus) and corn (two plus) gave positive reactions. Horse dander, horse serum and goat hair reacted negatively. However, after each of the first two doses of toxin-antitoxin there were mild attacks of asthma. There have been no attacks since October, 1926, except these two following the toxin-antitoxin. Present weight, 93 pounds. He drives to and from school each day, a total of twenty miles, so that he may help with the farm work at home.

COMMENT

The increase in intensity of the skin reaction following the first series of injections of horse dander and relief following the second series led me to believe that the treatment with foreign protein in this case might not have been specific, and the sensitization might be artificially produced in asthmatics by a series of hypodermic injections of some foreign protein and then relief obtained by desensitization. I have not been able to accomplish sensitization to foreign protein in any asthmatic in whom I have tried to do so. Consequently I have not been able to determine whether or not an artificially sensitized asthmatic might be benefited by hyposensitizations against a protein with which he had been artificially sensitized. The reaction of this boy in the form of an asthmatic attack following the goat serum antitoxin might cast a doubt upon the specific nature of his asthma but the reaction to so large an amount of foreign protein is likely to occur in any asthmatic whose asthma is of allergic origin.

Case 2: This patient was 25 years of age when she came to me and had been having asthmatic attacks since 18 years of age. Her mother and brother had asthma. The patient had a severe attack of urticara at 14. The attacks were always worse during the spring and fall. She was usually free of asthma during the winter months though she sneezed a great deal the year round. During the spring and summer she had a profuse watery nasal discharge. She stated that she couldn't stand the "smell of cattle" and that she had to quit milking on that account; nor could she go into the barn to gather eggs. She had received treatment constantly, including the removal of tonsils and adenoids, removal of turbinate bones, antra opened and washed out, other nasal operations and many "sunlight treatments", etc. Skin tests revealed a repeated failure to react to any pollens and a constant reaction to cattle hair and a moderate reaction to goat hair. There was no contact with goats at that time. Treatment was instituted with cattle hair extract and immediate cessation of the asthmatic attacks ensued. However, great difficulty was encountered in the administration of all but the highest dilutions. After the usual number of injections of a given dilution, skin tests would remain positive to the next lower dilution, and a greater number of doses of the higher dilution would have to be given. Then, also, the larger doses of the lower dilutions were likely to cause attacks of asthma, and it was found necessary to increase the weekly dose by a fraction of a minim in order to avoid reactions. Naturally the process of hyposensitization required considerable time. It was during the treatment of this patient that I saw a report of the use of adrenalin chloride given with doses of pollen as a means to avoid reactions. I tried the method in this patient with a most unhappy result. The reaction would not occur during the regular hour's wait in my office, which I had strictly enforced with this patient, but two to eight hours later at home. It would seem preferable to me always to try to give a safe dosage, to have very susceptible patients wait for an hour after injections and reserve the adrenalin or ephedrine for emergencies. In the treatment of asthmatics by hyposensitization, skin tests are the best guide for change of dilution and in the very susceptible patients, all doubtful tests would best be regarded as positive. This patient has found that unwashed strawberries will always cause rather mild attacks of asthma. This seems rather unusual to me and I believe worth passing mention. She can eat washed strawberries in any amount with absolute impunity, but a few strawberries eaten in the garden will always cause an asthmatic attack. The skin test is constantly negative to strawberries. Most likely she is susceptible to the pollen of some garden plant or weed against which she has not been tested.

COMMENT

This case is of particular interest in that the history pointed the way in both diagnosis and treatment.

Case 3: This patient was 7 years of age when she came under my observation in 1925. Asthmatic attacks had occurred since she was a year and a half old. Asthma was present all seasons except midsummer. Her parents always felt that the advent of cooler weather would give her a "cold", and then she would have asthmatic attacks of two or three days' duration throughout the fall, winter and spring.

She always has a little "cold" which forces her to breathe through the mouth; because of this fact her tonsils and adenoids were removed (?) when she was three years of age. She was brought to me October the 29th with the history of the present series of severe attacks since August. Since the first asthma of the year had come on in August while she was running through the pasture the parents thought ragweed might be the cause. A cousin had been treated by me for seasonal asthma due to ragweed. There was also other history of asthma in the family, but in no case other than the one due to ragweed, had an attempt been made to determine the cause.

Physical examination was negative except for the presence of badly diseased tonsillar remnants. The general state of nutrition was fair. Skin tests were negative to pollens and also to all routine extracts except horse hair and cattle hair. Both of these yielded repeatedly positive results. It was finally decided that it would be wiser to use only one extract and treatment was started December 15, 1925, with horse hair extract. No attacks occurred during the entire course of treatment, although she had severe colds similar to previous ones which her parents stated had always caused asthma. Three months after cessation of treatment she had a mild attack, and has had a few mild attacks at long intervals since. The attacks are easily controlled by ephedrine and her parents do not feel that she needs further treatment. Her growth and improvement in health have been phenomenal. Skin tests remain slightly positive to horse hair (concentrated) and strongly positive to cattle hair.

Rackemann(2) has grouped apparently "cured" cases of asthma under a number of headings and has shown quite definitely that "cures" may frequently be obtained without elimination of an allergic substance. He has for example a rather large group of cures following improvement in hygiene, and I believe that many physicians who treat asthma have had a similar experience, although most of us have had a very much more limited experience. Cure by some means other than the elimination of a known allergic substance does not prove that there may not be some unknown allergic factor. Frequently improvement is noted in known allergic cases as the result of improvement in hygiene or removal of foci of infection, and this is even more definitely so in urticaria than in asthma. In several cases of urticaria where the provocative factor, which Rackemann has so aptly termed the "trigger" mechanism in asthma, was known to be some food such as nuts or strawberries, I have seen cures obtained without eliminating or hyposensitization.

As an illustration, in May, 1923, a girl, 13 years of age, came complaining of hives, which were always produced by eating nuts or figs, and never present unless these foods had been eaten. Examination revealed deeply embedded tonsils with reddened pillars, two teeth that looked as if they might be infected, and some lower abdominal tenderness. Her urine constantly contained a trace of albumin and the leukocyte count was 12,000. Skin tests were negative. X-ray of the teeth was negative for evidence of infection. The tonsils were removed and she has not had hives since. She eats nuts and figs as freely as she desires.

As in the above case, skin tests in urticaria are likely to be, and often are, negative even to the substance known to be the provocative factor. And why not the same with asthma? Certainly neither negative skin tests nor disappearance of asthma as the result of improvement in hygiene precludes the possibility of an unknown allergic factor. This girl was cured of urticaria by the removal of tonsils and she undoubtedly would have been cured by eliminating nuts and figs from her diet. And so in asthma more than one pathway to cure may be open. Elimination of a known allergic factor would, in the light of present knowledge, seem the surest path to follow. Where this cannot be accomplished, other means should be tried. The three cases of asthma cited in this report illustrate the use of a method that would appear worth trying where elimination is impossible or impracticable. At best the removal of the exciting cause of the attacks is only an elimination of the "trigger" mechanism.

There is no desire on my part to leave the impression that treatment along this line is always successful. However, my failures have resulted when the skin reactions have been doubtful and history not suggestive. Failure in attempts at hyposensitization in such instances only prove that my judgment was in error in evaluating questionable skin reactions. Where skin reactions are moderately to strongly positive and confirmed by the history, worth while results may be confidently expected from treatment by hyposensitization in cases of animal hair asthma.

COMMENT

1. Clarke, J. Alexander, Jr.: Factors Governing the Treatment of Asthma, J. A. M. A. 89:866, (Sept. 10), 1927.

2. Rackemann, F. M.: Studies in Asthma II, Archives of Internal Medicine, 41:346, (March) 1928.

VARICES OF LOWER LIMBS

The treatment of varices by obliterating injections gives the most favorable results in the vast majority of cases; the curing of even very pronounced cases is effected within three or five weeks by means of harmless and only slightly painful reactions; the method does not confine the patient to bed. In most cases the varices converted into hard cord are permanently obliterated. This method, therefore, says Jacques Forestier, Aix-les-Bains, France (*Journal A. M. A.,* June 16, 1928), appears bound to take the lead over the surgical treatment with its risks and dangers. In 15 per cent of the cases, recurrences are noticed, not on the obliterated varices but on varicose sections appearing after the injections. As we know that the varicose condition is a diathesis, we are not surprised by such recurrences. In such cases a few supplementary injections after one or two years are likely again to bring out favorable results. Not only does the treatment of varices by obliterating injections cause the ugly projections to disappear (an aesthetic consideration which carries great weight with many young women), but it also does away with functional troubles, and with the sensation of heaviness and heat particularly painful in the summer months. Because of its simplicity and harmlessness, the treatment of varices by obliterating injections is bound to take prominent rank among the medical therapeutics of this condition. Intravenous injections of properly chosen caustic solutions into the varicose veins produce a chemical reaction (venitis) which leads to obliteration and secondary atrophy of the superficial vessels. The obliteration of the varix takes place with little pain, tends to the disappearance of the distended vessel, and at the same time relieves the functional disturbances produced by the varices. The best solutions to be employed are sodium salicylate, quinine and red mercuric iodide. The author has not observed an embolus or any other accident of importance in a total of more than 5,000 injections. The treatment is an ambulatory one. It is indicated only in varices of the lower limbs with valvular insufficiency of the veins and with or without sloughs.

PULMONARY ABSCESS AND PULMONARY GANGRENE

Pulmonary abscess was observed by B. S. Kline, Cleveland (*Journal A. M. A.,* June 23, 1928), more frequently in children than in adults, and in the majority of instances was apparently of aspiratory type. The remainder, embolic in type, were invariably associated with abscesses elsewhere in the body and almost always with a staphylococcus septicemia. The prognosis in cases of aspiratory lung abscess is fair. There is conclusive anatomic and experimental evidence that pulmonary gangrene is caused by a group of organisms, notably spirochetes, fusiform bacilli and vibrios, aspirated from the oral cavity. In cases observed clinically, a careful examination of the sputum is sufficient to enable one to make a differential diagnosis between pulmonary abscess and pulmonary gangrene. In the cases of pulmonary abscess, the sputum is mucopurulent or purulent without appreciable odor. When washed it shows the pyogenic organisms in cultures and in smears stained by the Gram method. In the cases of pulmonary gangrene, on the other hand, the sputum is foul smelling and grayish green, and when carefully washed it shows the characteristic spirochetes, fusiform bacilli and vibrios in smears stained by strong carbolfuchsin solution or by the Fontana method. As the cases of pulmonary gangrene do not respond well to the treatment for abscess but are frequently cured by arsphenamine therapy, the differentiation between these two diseases is imperative. Spirochetal pulmonary gangrene may be prevented by proper oral hygienic or therapeutic measures.

The doctor coughed gravely.

"I am sorry to tell you," he said, looking down at the man in bed, "that there is no doubt you are suffering from smallpox."

The patient turned on his pillow and looked up at his wife.

"Julia," he said in a faint voice, "if any of my creditors call, tell them that at last I am in a position to give them something."—Selected.

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Dr. A. P. Overgaard, Omaha, Vice President	1928
Dr. C. A. Selby, North Platte, Vice President	1928
Dr. R. B. Adams, Lincoln, Secretary-Treasurer	1930

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Dr. R. W. Fouts, Omaha	1928

DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

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Note: In case of suit notify secretary at once.

THE LIMIT OF THE GENERAL PRACTITIONER'S WORK

The general practitioner's work has gradually become somewhat circumscribed by the inroads of specialism. The younger men, coming from the schools, trained under the tutelage of specialists, seem to look forward to a rather narrow field of general practice for themselves and some tamely refer all work of special character to the workers in special lines. The general practitioner of a generation ago was expected to take care of all kinds of work, and if a man of character, ability and vision, did so to his credit and to the satisfaction of his patrons and to his financial benefit.

This is a plea for the general practitioner of today—not a puerile attempt to inveigh against the specialist. Each has his place and the general practitioner must see to it that he gets what belongs to him—the specialist will get his share. The general practitioner must be more than a procurer for the specialist; he must be a broad general practitioner. He must do what he feels his education, native ability and tact fit him to do. He must know his limitations. His professional and economic success depends largely upon himself. The training of the medical man of today fits him for a wider range of general practice than the training of his forbears in the profession, if the will to do it is inherent in the man. If he feels able to do some of the general surgery of the community he should do it. The average run of simple and compound fractures fall to the general practitioner if he wills to take care of them—and he should. Cuts and lacerations of most all degrees of severity, resulting from auto accidents, farm machinery and industrial mischance, he should be prepared to take in hand and treat satisfactorily. An exception may be made of brain and abdominal complications. If he feels that he has the training and courage to do an appendectomy, there is no real good reason why he should not do it, at the home of the patient, or in an emergency hospital if one is available.

Tonsillectomies, most general practitioners can do if they will. Most external diseases of the eye are within the scope of the knowledge of the general practitioner to treat and so are certain middle and external ear diseases. Refraction is successfully carried on by many general practitioners, and if the physician knows his limitations, is a fruitful source of income and is a satisfaction to his patrons. The average layman would rather trust a simple refraction to his family physician than to the neighboring optometrist or the spectacle peddler. The accidents and emergencies of obstetric practice call forth the best there is in the general practitioner and if he is equal to most of them, he is fitted to do general surgery, for obstetric surgery, is for the most part, major surgery.

Some rectal and genito-urinary troubles come in the same class.

Physiotherapy, true physiotherapy, not *physio-quackery*, offers much in the way of office treatment to the general practitioner.

The office work of the general practitioner can be increased to almost any extent, if the will to do so is inherent in the man.

The general practitioner is not likely to starve. On the other hand, a golden era for the general practitioner is just at hand.

The general practitioner must look out for himself and for his clientele—no one will do it for him.

If this is heresy the editor is ready to take the consequences.

THE UNIVERSITY HOSPITAL PROBLEM IN IOWA

The organized medical profession in Iowa does not seem to be in accord with the principles on which the University Hospital at Iowa City is operated. Like Nebraska, Iowa has a law providing for medical and surgical care of indigent persons at the University Hospital and the Iowa University Hospital is a teaching hospital in connection with the College of Medicine. In Nebraska there is no provision in law for the transportation of the patient to the University hospital, or for the payment of an attendant, while the Iowa law provides a fund disbursed from the state treasury for transportation, pay for an attendant and for hospital expenses.

It is asserted that the law is greatly abused in that persons, not indigent, get the benefit of the law. It is also objected that some counties are compelled to contribute more than their share toward the fund, while others contribute much less than they get in service. Objection is also made to the indefinite period of treatment provided for by the present law.

The university authorities assert that the success of the University College of Medicine depends on the continuance of the present method. The outstate profession demands that the funds be kept in the county treasury and disbursed therefrom, and that persons applying for University hospital care shall be first examined by a board of which one member, at least, shall be a physician.

All of which is interesting and should remind us that a similar problem may arise to confront us in the future.

THE PSYCHOLOGY OF THE DOCTOR'S OFFICE

One of my very good friends and colleagues who has recently returned from Europe, was telling me of the humble surroundings in which some of the world's greatest medical men are found there. He compared that with the "showroom" tendency of the medical offices in this country, which are by-words of expensive furnishing and equipment in the rest of the world. We went on in our conversation to deprecate this extravagance in non-essentials. I agreed that an elegant office did not prove true scientific worth nor did it make a great man.

But the thing stuck in my mind for several days. By now, I have changed my mind about it. I have transferred my allegiance to the "American school" which believes in offices so equipped as to be efficient and beautiful. Here's why:

Ramon y Cajal, working out epoch-making neurological discoveries in a pauper's attic was confronted by a different personal problem than is the average practitioner in an American community. *Our* job is to carry the benefits of science, such as it exists, to the public, such as it exists. Only the rare one among us is privileged to add much to this structure of science; and the hope of making any change at all in the public is small. If we are going to confer the benefits which it is our life's mission to confer, we cannot do it in our own way, nor in the way which it is done in Europe or was done a hundred years ago. We've got to study our present public and our present situation just as hard as we study the other side of the question—the science. Otherwise we shall have our science to ourselves, as Ramon y Cajal did, and no public upon whom to confer the benefits of this science.

In Europe a large proportion of the physician's work is done in hospital and clinic. Up to less than a generation ago in this country, most of the physician's work was done in the patient's home. In either situation, the office plays a relatively unimportant part. Why should a European physician furnish up an office properly, since it is merely a side-line to his existence?

Because of the phenomenal progress of transportation among us, most of the American physician's work today is done in his office. Most of his patients come to him. His office is his principal field of action. It must be so organized and equipped as to enable him to handle his work properly, and to express his personality. It has assumed in his life an importance which threatens to outweigh that of his home.

The great mass of practice in this country is a private relationship between individual physician and individual patient. Clinics are not as universally at the service of the people as they are in Europe; nor are people as readily hospitalized here. It is inevitable that the burden of most of the physician's work fall on his office.

With the progress of scientific methods, it is unavoidable that the equipping of an office so that it will be of real service, is expensive. Laboratory, diagnostic apparatus, x-ray, therapeutic apparatus, in addition to mere furniture, cost money. Yet, without them, the physician is not giving his patient the benefits of modern science to which every patient is entitled. It is not a question of "show room" at all. It is a question of bare necessities for *Service*.

Less expensive than the scientific apparatus, yet fully as important, are the common interior furnishings. I wish to make the deliberate statement that the need of furnishing an office so that it is psychologically pleasing to the beholder is fully as important as its scientific equipment. Perhaps it is more important. In spite of its numerous scientific appendages, *medicine is not yet a science*. We can do many things scientifically. But let anyone of us consider the general mass of patients with whom he has dealt for ten or twenty years; and if he is a frank and qualified judge, he will admit that he accomplishes the majority of his benefits to his patients by his personality, his experience, his ability to handle people. The greater the physician, the more *art* he uses in proportion to his science. Science is up to date totally unable to cope with the human equation in patients.

The mere furnishings of a waiting-room can give a patient confidence in the physician or destroy it; they can calm and quiet him, or irritate and disturb him. They can make him feel like coming back again, or of staying away forever, quite independent of the doctor's scientific efforts. The furnishings of the doctor's office are at least as important as the clothes he wears. I am inclined to think that of the two, the office has the better opportunity to make the initial impression for good or bad.

An intelligent layman (and that is the kind we want for our patients) who comes into a doctor's office and sees that its furnishings portray carelessness, negligence, lack of appreciation for the patient's feelings—will conclude that if the doctor is that kind of a man in one thing, he must have about the same qualifications in his professional work. Perhaps he does not consciously reason it out as clearly as I have set it down; but none the less, his first impressions determine his opinions of the doctor, and they are tremendously difficult to change later. And nine-tenths of our patients get their first impressions of us from their offices.

If this intelligent layman is able to reason more clearly about this matter, he will cogitate about as follows: "This office looks rather careless and shabby. Doesn't seem to have much modern equipment. Even the shoemaker around the corner has modern machinery and a cozy little nook in which to wait in stockinged feet. If this doctor hasn't got a good enough head on him to see the need for keeping up with modern progress in his equipment, and of keeping up as good an appearance as a real-estate office, I suspect that there must be the same sort of deficiencies in his professional ability. How can a man be careless and slipshod in one part of his work, and capable and clean in another? It seems to me that just the bare fact that he is not wise enough to see the need of neatness and presentability is a point against his ability. Anyway, it is much more agreeable for me, the next time I need a doctor, to go into an office where it makes me feel good as soon as I step into the door."

I am inclined to agree with him.

There is actual therapeutic value in a correctly furnished waiting room and consulting-office. The principles of this kind of treatment might well be taught in school.

—Miles J. Breuer.

HEALTH DEMONSTRATION AT THE NEBRASKA STATE FAIR

The demand for information on matters pertaining to health far exceeded expectation at the State Fair in September. A corps of four physicians was kept busy daily answering questions on hygiene, sanitation, and personal health.

A large room was decorated with posters and charts and at one end of the room we had fifty pathological specimens on display. This museum attracted much attention and called for a physician to be in constant attendance to answer the numerous and various questions regarding them.

At the other end of the room the Nebraska State Tuberculosis Association was given space where there was displayed an interesting collection of charts and posters under the supervision of Miss Alice Marshell, executive secretary. A constant stream of people was weighed and measured by her and referred to the physicians for further examination. In another corner Miss Emma Kessler of the School for Hard of Hearing gave demonstrations of lip reading and distributed literature dealing with deafness.

From the state a series of health talks and lectures on the pathological specimens was given almost continuously throughout each day. These talks were alternated with reels of motion pictures, very interesting in character and dealing with many phases of health.

The conveying of health messages through motion pictures is a very successful medium. The crowds were attracted by the free show and their attention was held and the health messages driven home by the objective teaching of health stories in pictures. The lesson of the pictures so impressed the people that they became seriously interested in health and remained to hear the lectures and view the exhibits. We distributed to all visitors a pamphlet "Do We Keep Faith With Our Children? which was a general message appealing strongly for child health.

Realizing the importance of Periodic Health Examinations in the conservation of health, we, this year, attempted to put on practical demonstrations at the State Fair. Our desire was to have one applicant from each county in the state and each county secretary was written and asked to supply one from his respective district. We were unsuccessful in interesting the county secretaries in this effort to have state wide representation for we had only ten applicants sent in by the county secretaries. This was disappointing but through greater effort and other means we were able to secure more applicants than we had time to examine.

In the afternoons of September 3, 4, 5, and 6, from 1 until 5 o'clock, Periodic Health Examinations were given by out-state physicians. Twenty-eight doctors, members of the Nebraska State Medical Association, donated their time and skill for this demonstration and in all examined 129 applicants. There were 26 men, 42 women, and 25 children given thorough examination and records kept of findings on Periodic Health Examination blanks furnished by the A. M. A.

Besides these there were 26 applicants given fluoroscopic examinations of the chest. (The loan of the x-ray equipment used in making these examinations was generously donated by the Victor X-Ray Corporation).

Of the 103 people who were given thorough physicals there were 63 towns listed as their residences and 45 counties represented.

A thorough painstaking examination was given each applicant, by one examining physician. and recommendations made in each case. No treatment of any kind was offered and in such cases wherein treatment was needed the applicant was advised to consult his family physician.

The group plan of examining a patient was purposely avoided. The practice of passing the patient from one physician to another for special examinations, and have the correlation made by another creates the impression with the patient that in order to have such an examination one much consult a group of doctors. The average man concludes that such a procedure is expensive. something he is unable to afford, and rather than have a health examination, he waits till ill to consult his physician.

Our desire at the State Fair was to popularize health, to create the impression that the periodic health examination could and should be made by the family doctor and that a yearly physical check up is good business.

The examining doctors labored long and diligently under not too pleasant circumstances, yet their reward has been in knowing the good they have done. The public has been educated and now has greater confidence in our teachings.

Periodic Health Examination has been demonstrated to a sufficient number of people from a wide enough area to have state wide influence, and from these people distributed throughout the state we believe a greater demand will grow for this sort of medical service.

The two medical colleges of our State, Nebraska and Creighton, contributed much toward the success of our exhibit and demonstration. They furnished men and material, and other valuable assistance in arranging and carrying on our program.

The State Fair Board of Managers generously donated the space for our exhibit and examinations and was fully cooperative in every way.

The Nebraska State Medical Association and the place it occupies in relation to the public is better known to the people of our state than ever before, and we predict that health demonstrations under organized medicine will grow to be a very important feature of the Nebraska State Fair.

—E. R. Hays.

NEBRASKA PUBLIC HEALTH ASSOCIATION MEETING

A short formal meeting of The Nebraska Public Health Association was held in the Lincoln Hotel, September 5, this being the first meeting of the association since its organization last May.

The attendance was fairly good. The attendance of public health nurses, school nurses and others was especially gratifying and encouraging. A dozen or more new members were added at the meeting, besides a number who had been received during the interim.

The program as prepared and published was carried out in its entirety. The papers, five in number, were of high grade, well prepared, well received, and elicited interesting discussion.

"County Health Program" being the subject of Dr. E. R. Hays' paper, he being the county health officer of Richardson county was in a position to give first-hand information as to what has been accomplished in a publec health way in his county, and he did so in a lucid paper, calling attention to the fact that the law makes virtually no appropriations for such public health work, yet despite this fact he demonstrated that by energetic, systematic organization, public health work can be done, and that it can be done in such a manner as to sell itself to the county commissioners, who hold the purse strings, and that they can and will compensate for the services. The consensus of the meeting was that other counties might do well to emulate Richardson county in this respect.

"Nursing Problems and Education" was dealt with by Miss Phoebe M. Kandel, Director of Nursing Education for the State Nurses' Association, and brought out some points well worth consideration. She emphasized the difficulty of securing suitable nurses for mental cases in the smaller towns and rural districts, arguing that all nurses should be given adequate training in the handling of nervous cases. She also gave a resume of the numerous nurses' training schools she had inspected in the various hospitals of the state.

"Medical Legislation" was handled by Dr. F. B. Young of Gering. In this paper he declared that Nebraska has a good, workable medical practice act and comprehensive health laws, pointing out, however, the seeming incongruity of having the pure food, drug, and dairy interests handled by the Department of Agriculture, as is the case in this state.

Speaking on "Stream Pollution", Mr. F. B. O'Connell, State Game Warden, pointed out the importance both from a health standpoint and saving the lives of the fish of the streams by providing means to prevent further pollution of the streams of the state.

Dr. H. von W. Schulte, Dean of the Creighton Medical College, gave an interesting resume of public health work, reviewing the various movements which have gradually brought about present public health conditions. He referred to the question of prohibition as a health problem rather than one of personal liberty, pointing out the inferior mentality of thousands of mankind, declaring that the opportunity for immoderate use of alcoholics will result in their utter downfall.

The discussions were participated in by Drs. B. F. Lorance, Auburn; P. H. Bartholomew, Lincoln; H. von Schulte, Omaha; F. B. Young, Gering; E. R. Hays, Falls City; M. M. MacVean, Nebraska City; W. H. Wilson, Lincoln; R. H. Sawyer, Lincoln; and Miss Lulu Wolford, of the State Superintendent's office; Miss Phoebe M. Kandel and Miss Louise M. Murphy of the State Bureau of Health; Miss Florence McCabe of Omaha; Miss Kathrine Justesen of Neligh; Mr. H. P. Letton, Lincoln; and Mr. L. O. Vose, Director of State Laboratories.

—W. H. Wilson.

THE FORTHCOMING MISSOURI VALLEY MEDICAL ASSOCIATION MEETING

The Medical Association of the Missouri Valley will meet in Omaha, October 30th and 31st, and November 1st. An effort is being made to reorganize this worthy society to meet the demands of changing conditions. The County Societies, Hospital Staff meetings and to a certain extent the State Societies provide opportunities for the presentation and discussion of case reports and didactic papers. Many have expressed the belief that there is a place for a society whose activities are primarily educational and whose programs shall consist largely of original work of moment presented by the investigators in person, and of clinics given by master teachers in medicine. A glance at the program offered for the Omaha meeting will show that it fulfills the above requirements.

This year's meeting is to be held in Omaha because the Council thought it wise to return this year to Nebraska in order to ascertain if there is a demand in this district for programs similar to the one given in Omaha in 1926 and in Des Moines in 1927. If the profession wants such a society it will be necessary for physicians to make it known by their presence.

Membership dues are two dollars per annum. An initiation fee of one dollar is charged. Nonmembers pay an admission fee of three dollars.

JUST THE SAME

"You're suffering from indigestion. Drink a cup of hot water every morning."

"I've been doing that for some time, doctor, only my wife calls it coffee."

EDITORIAL PARAGRAPHS

The Women's Auxiliary of the Douglas County Medical society is pushing the county hospital movement and the effort will count.

The Atlantic Medical Journal, beginning with the October number, will become the *Pennsylvania Medical Journal,* which was its former name.

The Omaha-Douglas County Medical society sponsors a speakers bureau and offers talks on health topics to organizations and industrial plants. A list of sixty physicians is published for this work.

Dr. Charles A. L. Reed, Cincinnati, President American Medical Association, 1900-1901, and one of the real forceful characters in American medicine for a generation, died August 28, of angina pectoris.

The annual meeting of the American College of Physical Therapy will take place in Chicago, October 8-13, 1928. At least six noted men from abroad will take part in the program. Dr. Roy Fouts, Omaha, is secretary.

After seventeen years of service as editor of the *Journal of the Iowa State Medical Society,* Dr. D. S. Fairchield, Clinton, Iowa, has resigned in favor of a younger man, Dr. R. R. Simmons, Des Moines. Dr. Fairchild has been one of the outstanding men in American medicine for a generation.

Crance, in *N. Y. State J. Med.,* says: The specific treatment of ringworm is simple. Soak the parts twice a day in 1 to 4000 solution of potassium permanganate. Every other night apply Whitfield's ointment made as follows: Acid salicylic 3.0, acid benzoic 6.0, lanolin 15.0, petrolatum q. s. ad. 60.0.

Warning has come from Iowa that a man giving his name as F. H. Leigh is going through the state representing himself as in the employ of the C. M. Sorenson Co., and is defrauding physicians. If such a person turns up in Nebraska, the C. M. Sorenson Co., Inc., would like to be informed by telegraph.

The new Iowa University Hospital and Laboratories, at Iowa City, are about completed and will be formally opened November 15, 16 and 17. They are imposing structures and occupy 3 blocks on the west side of the river—a considerable change since the early Eighties when the medical school occupied the south half of one floor and the basement of the old South Hall. The Rockefeller Foundation gave two and a quarter millions toward the new plant and the State of Iowa furnished the additional amount up to about five millions.

MEDICAL ASSOCIATION OF THE MISSOURI VALLEY PROGRAM

(All scientific sessions will be held in the Medical Arts Auditorium—17th and Dodge Sts.)

TUESDAY, OCTOBER 30th, 1928

Morning Session

9:30—The Discussion of the Clinical Manifestations of the Lymphomata With Report of 136 Cases—Dr. C. W. Baldridge, Assistant Professor of Medicine University of Iowa, Iowa City, Iowa.

10:00—Peritonitis from an Experimental Standpoint—Dr. Vernon C. David, Associate Clinical Professor of Surgery, Rush Medical College, Chicago.

10:30—Some Considerations of Interest in Liver Diseases—Dr. Leonard G. Rowntree, The Mayo Clinic, Rochester, Minn.

11:15—The Etiology of Gastric and Duodenal Ulcer—Dr. A. C. Ivy, Professor of Physiolcgy, Northwestern University, Chicago.

Afternoon Session

2:00—Surgical Clinic—Dr. Vernon David.

3:00—The Discussion of Certain Recent Developments in the Metabolism of Children—Dr. P. C. Jeans, Professor and Head of the Department of Pediatrics, University of Iowa, Iowa City, Iowa.

3:30—Further Posture Studies in Gynecology—Dr. Norman F. Miller, Associate Professor of Obstetrics and Gynecology, University of Iowa, Iowa City, Iowa.

4:00—Injuries of Upper Cervical Vertebrae—Dr. Charles Ryan, Des Moines.

4:30—A Study of the Principles Involved in Medical Diagnosis—Dr. Julius Weingart, Des Moines, Iowa.

Evening Session

8:15—The Physiology of the Gallbladder—Dr. A. C. Ivy.

9:15—Functions of the Liver—Dr. Frank C. Mann, The Mayo Foundation, Rochester, Minn.

WEDNESDAY, OCTOBER 31st, 1928

Morning Session

9:00—Intestinal Obstruction Due to Pin Worms With Case Report—Dr. A. C. Stokes, Omaha, Nebraska.

9:30—Endocrinology in Relation to Skin Diseases—Dr. Alfred Schalek, Professor of Dermatology and Syphilology, University of Nebraska, Omaha, Nebraska.

10:00—The Treatment of Heart Disease—Dr. James B. Herrick, Professor of Medicine, Rush Medical College, Chicago, Illinois.

10:30—Digitalis—Dr. P. T. Bohan, Professor of Medicine, University of Kansas, Kansas City, Missouri.

11:00—Low Back Injuries (more definite title later)—Dr. Frank D. Dickson, Kansas City, Missouri.

11:30—Static Backache—Dr. Robert Schrock, Assistant Professor of Orthopedic Surgery, University of Nebraska, Omaha.

Afternoon Session

2:00—Medical Clinic—Dr. James B. Herrick.

3:00—Spirochoetal Lung Infection—Dr. Russel L. Haden, Professor of Experimental Medicine, University of Kansas, Kansas City, Kansas.

3:30—(Title later)—Dr. M. L. Harris, President-elect of the American Medical Association, Chicago.

4:00—Newer Knowledge of the Physiology of the Semicircular Canals With Clinical Implications—Dr. James F. McDonald, Professor of Physiology, Creighton College of Medicine, Omaha, Nebraska.

4:30—Round Cell Infiltrations in Poliomyelitis and

Encephalitis—Father N. Nichels, Associate Professor of Anatomy, Creighton College of Medicine, Omaha, Nebr.

Evening Session

6:30—Dinner—Hotel Fontenelle Ballroom.

Toastmaster—Dr. Donald Macrae, Council Bluffs, Iowa.

Presidential Address—The Obligations of the State University Medical Schools—Dr. Fred M. Smith, Professor and Head of the Department of Medicine, University of Iowa, Iowa City, Iowa.

Dr. M. L. Harris, Dr. James B. Herrick and Dr. Ralph Major will also address the Society.

THURSDAY, NOVEMBER 1st, 1928

Morning Session

9:00—Anemia in Infants and Children—Dr. Clifford G. Grulee, Clinical Professor of Pediatrics, Rush Medical College, Chicago.

9:30—Studies on the Testicle With Especial Reference to Transplantation—Dr. Carl R. Moore, Professor of Biology, University of Chicago, Chicago.

10:30—The Physiology of Sinuses and Their Drainage—Dr. A. W. Proetz, Assistant Professor of Otology and Laryngology, Washington University, St. Louis, Missouri.

11:30—Myocarditis—A Clinical and Pathological Discussion—Dr. J. B. Clawson, Assistant Professor of Pathology, University of Minnesota, Minneapolis, Minnesota.

Afternoon Session

2:00—Pediatric Clinic—Dr. Clifford C. Grulee.

3:00—Repair of Deformities Due to Severe Burns—Dr. Earl C. Padgett, Kansas City, Missouri.

3:30—Orthopedic Clinic—Dr. Karl R. Werndorff, Council Bluffs, Iowa.

SEVENTH COUNCILOR DISTRICT MEETING

The Seventh Councilor District Medical Society will meet at Milligan, Nebr., Thursday, October 18, 1928, under the presidency of Dr. V. V. Smrha. Among others, Drs. E. C. Henry and Kelley, Omaha; L. W. Rork, Hastings; W. H. Wilson, Lincoln; and F. A. Long, Madison, will appear on the program.

Rudolph F. Decker, Sec'y.

LITTLE WHITE BEDS

I lay on my bed last night in a House of Healing.
The bed was clean and white, and my tired body rested gratefully.
But my tired brain would not rest.
I thought of other bodies, pain-racked and weary, that had lain on that bed before me,
Of other brains that would not rest:
Of eyes that wide open through the long night peered into the darkness,
Striving to read what the next day held for them,
And the next, and the next.
Some few there have been who were tenderly laid on the white bed,
Knowing they would go forth only to their long rest;
But the many have arisen joyfully, with health and hope renewed.
For all little white beds,
And for those who through them render service,
Kind God, we thank Thee.

—Emily Guiwitz.

MINNEAPOLIS MEETING OF THE NATIONAL AUXILIARY

The sixth annual session of the Woman's Auxiliary to the American Medical Association was held in Minneapolis, Minnesota, June 11-15, 1928. Over 1,200 women registered and they were delightfully entertained and cared for by the local auxiliaries.

The business meetings were largely attended, 400 women being present at the all day session of June 14. Much interest was given to the reading of the papers and state reports. There are now well organized and efficient units in 30 states.

The abstracted proceedings will be printed at an early date and a copy sent to the entire membership.

The following officers were elected:

President: Mrs. Allen H. Bunce, 360 Ponce De Leon Ave. N. E., Atlanta, Georgia.

President-elect: Mrs. George H. Hoxie, 3719 Pennsylvania Avenue, Kansas City, Missouri.

1st Vice President: Mrs. Evarts V. De Pew, 115 East Agarita Avenue, San Antonio, Texas.

2nd Vice President: Mrs. David W. Parker, 52 Clark St., Manchester, New Hampshire.

3rd Vice President: Mrs. Horace Newhart, 212 West 22nd St., Minneapolis, Minnesota.

4th Vice President: Mrs. Frank W. Cregor, 1621 North Meridian St., Indianapolis, Indiana.

Treasurer: Mrs. Irvin Abell, 1433 South Third St., Louisville, Ky.

Secretary: Mrs. M. T. Edgerton, 788 Penn Avenue, Atlanta, Georgia.

Parliamentarian: Mrs. F. L. Adair, 2500 Blaisdell Avenue, Minneapolis, Minnesota.

Directors for two years: Mrs. John O. McReynolds, Dallas, Texas; Mrs. Wayne W. Babcock, Philadelphia, Pennsylvania; Mrs. A. Haines Lippincott, Camden, New Jersey.

Directors for one year: Mrs. F. P. Gengenbach, Denver, Colorado; Mrs. William E. Parke, Philadelphia, Pennsylvania; Mrs. J. T. Christison, Minneapolis, Minnesota.

Chairmen of Committees—

Organization: Mrs. A. T. McCormack, Louisville, Kentucky.

Health Education: Mrs. Geo. H. Hoxie, Kansas City, Missouri.

Hygeia: Mrs. A. B. McGlothlan, St. Joseph, Missouri.

Publicity: Mrs. T. C. Terrell, Fort Worth, Texas.

Program: Mrs. Southgate Leigh, Norfolk, Virginia.

Finance: Mrs. G. Henry Mundt, Chicago, Illinois.

Entertainment: Mrs. William Kuyoendall, Eugene, Oregon.

Public Relations: Mrs. E. H. Cary, Dallas, Texas.

Revision of By-laws: Mrs. Morris Fishbein, Chicago, Illinois.

Special Appointments—

Auditor: Mrs. C. W. Roberts, Atlanta, Georgia.

Historian: Mrs. E. V. De Pew, San Antonio, Texas.

Committee on Health Films: Chairman—Mrs. John O. McReynolds, Dallas, Texas.

Committee on Resolutions: Chairman—Mrs. J. N. Hunsberger, Norristown, Pennsylvania.

Committee on Credentials and Registrations: Chairman—Mrs. James N. Brawner, Atlanta, Georgia.

Special Advisory Committee: Mrs. S. C. Red, Houston, Texas; and Mrs. Seale Harris, Birmingham, Alabama.

AUXILIARY NOTES

Doctor and Mrs. Harry E. Flansburg, of Lincoln, announce the birth of a son early in August. Mrs. Flansburg was secretary to the Auxiliary last year.

The Board of the Woman's Auxiliary to the Omaha-Douglas County Medical Society has visited the Douglas County Hospital to observe at first hand the crowded condition of this hospital. The marvel was that such good work is being done under such conditions. The Auxiliary gave a luncheon at the Field Club on Wednesday, September 12th. A musical program was arranged by Mrs. A. D. Dunn and talks were given by County Commissioner Thomas Falconer, Dr. J. E. Summers, Dr. M. E. Lathrop, and Dr. G. W. Dishong. Following the program plans were made for the part to be taken by the Auxiliary in the promotion of the bond issue for the new hospital.

Word has come to us through our National President, Mrs. McReynolds, of a contest being held for annual subscriptions to Hygeia. A prize will be awarded to the first state auxiliary to turn in one thousand annual subscriptions. The state auxiliary winning the prize will award it to the member selling the greatest number of subscriptions in 90 days. The prize is a trip to Europe or an automobile. Can't one of our ladies be fortunate enough to win this prize?

The State Publicity Chairman is anxious to receive auxiliary notes each month. Please be prompt in sending notes to her.

—Mrs. Aaron S. Speier, Publicity Chairman.

THE SOCIETIES

The **Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Society** held its third quarterly meeting at Wakefield, August 30, with twenty-five members and visitors present.

The program, as arranged by the Wakefield men, was as follows:

1. "Nasal Sinus and Middle Ear Infections in Children", by Dr. J. B. Naftzger of Sioux City.
2. "Mouth Pathology as Related to Medical Practice", by Dr. W. L. Shearer of Omaha .
3. "Difficult Deliveries", by Dr. Willis H. Taylor of Omaha.

—C. L. Phillips, Sec'y.

The **Madison Five Counties Medical Society,** at the meeting in Norfolk, August 21st, was entertained by Dr. Harold Gifford, Omaha, who came to the meeting to talk on some eye affections, but was persuaded to tell about his last winter's trip to the interior of Africa. Dr. Gifford crossed Africa from Cape to Cairo and his talk was listened to with rapt attention.

The September meeting of the same society took place at the Hotel Norfolk, Norfolk, September 18. Dr. Charles Moon, Omaha, presented the advantages of the Keilland forceps in all kinds of presentations. Dr. L. E. Moon, Omaha, spoke on rectal diseases with special references to the treatment of hemorrhoids by the injection method. He considers the injection method entirely practical in internal hemorrhoids. It leaves the patient ambulatory. He prefers from five to ten per cent quinine and urea solution.

HUMAN INTEREST TALES

Dr. O. C. Kreymborg has located at Hartington.

Dr. H. J. Wertman, Milford, has just completed a new office.

Dr. and Mrs. C. P. Fall, Beatrice, have returned from Europe.

Dr. J. G. Smith, Wahoo, made a trip to the Black Hills in August.

Dr. and Mrs. M. Wood, Tekamah, enjoyed an eastern trip in August.

Dr. J. P. Brown, Stuart, made a trip to western Colorado in August.

Dr. E. C. Foote and sons, Hastings, have gone to India to spend a year.

Dr. F. L. Wilson, Stuart, visited northern Minnesota during September.

Dr. Rudolph Decker, Byron, motored to Iowa and Illinois, late in August.

Dr. and Mrs. L. A. Carter, O'Neill, motored to Sheridan, Wyo., in August.

Dr. J. F. Lauvetz, Wahoo, attended a children's clinic in Chicago, a month ago.

Dr. and Mrs. B. F. Williams, Lincoln, have returned from an extensive European trip.

Secretary R. B. Adams spent the month of August in northern Minnesota and Canada.

Dr. Walter E. Nowers, Kenesaw, spent a month in Los Angeles doing post graduate work.

A combined office and emergency hospital has been opened at Howells, by Dr. W. F. Novak.

Dr. L. H. Dunham, formerly of Lincoln, has become associated with Dr. F. B. Young, Gering.

Dr. George Ainley has become associated with the Potter-Harvey-Hughes clinic at Fairbury.

Dr. William Edmonds, Nebraska City, visited the New England and Middle States during August.

Dr. W. J. Conner, Petersburg, motored to Minnesota, South Dakota, Wyoming and Colorado, recently.

Dr. L. J. Homan, formerly of Sioux Falls, S. D., has located at Lynch in association with Dr. F. Vennaman.

Dr. W. C. Peterson, formerly of Henderson, has located at Fairbury to do eye, ear, nose and throat work.

Dr. L. F. Chapman and family, West Point, motored to the Yellowstone Park and Salt Lake City, in August.

The partnership heretofore existing between Drs. H. S. Andrews and E. S. Jarmin, Minden, has been dissolved .

Dr. A. A. Bald and family, Platte Center, returned early in September from a month's trip to the Yellowstone.

Dr. and Mrs. Charles F. Ulrich, Omaha, spent their vacation in the Black Hills and at Valentine, their former home.

Dr. J. Blaine Babcock has been appointed superintendent of the Hastings State Hospital. He had been one of the assistant physicians.

Dr. J. I. Allen has located at Oshkosh. He had formerly been in practice at Chappel but for the past year he had been in Seattle.

Dr. W. E. Shike, Gering, after one year's enforced vacation, owing to an auto accident last year in the Colorado mountains, has resumed practice.

Before the Colorado State Medical Society meeting at Colorado Springs, in mid-September, Dr. Leroy Crummer gave an address on "On the Various Editions of Harvey".

Dr. H. W. Quirk, secretary of Saline County Medical society, for 23 years in practice at Crete, has moved to Novelty (suburb of Cleveland), Ohio, where he will engage in practice.

Dr. M. G. Wohl, of Omaha, has recently returned from Vienna, where he spent nine months in postgraduate work in Internal Medicine. He has been granted a leave of absence from the staff of Mercy Hospital for the purpose of organizing the Department of Experimental Medicine at Temple University Medical School, Philadelphia.

Dr. and Mrs. Palmer Findley, Omaha, made an extended trip through the east. They left the latter part of August for Lake Temagami, Ontario, where they spent several weeks. Later they went to Toronto where Dr. Findley presided at the annual meeting of the American Association of Obstetricians and Gynecologists of which he is president. They returned home through New England and Washington.

NECROLOGY

Charles E. Spahr, York, Pa.; Hahnemann Medical College, Philadelphia, 1885; an eye, ear, nose and throat specialist; practitioner of Lincoln in the early nineties of the last century; died a suicide about the middle of August, aged sixty-six years.

Henry Cook, Red Cloud, Nebr.; licensed 1899, years of practice; pharmacist and practitioner of the Red Cloud community for fifty years, died August 31, 1928, aged seventy-nine years.

Frank L. Wilmeth, Lincoln, Nebr.; Lincoln Medical College, 1894; for a number of years head of the Lincoln Medical College, now defunct; a prominent Eclectic physician; died September 3, 1928, after a week's illness; aged sixty-six years.

CAUSATION OF CREEPING ERUPTION

Creeping eruption is defined in most textbooks as a skin disease caused by the migration of fly larvae in the human skin, resulting in advancing linear lesion. A number of different species of animal parasites may cause such skin lesions. There are, therefore, a number of different creeping diseases. Some of these, indeed, are caused by fly larvae. One of them is due to an immature stage of a nematode of the genus Gnathostoma. Another one is the creeping disease discussed by G. F. White, Washington, D. C., and W. E. Dove, Dallas, Texas (*Journal A. M. A.*, May 26, 1928), in the present paper, caused by a third-stage larva of one of the dog and cat hookworms, *Ancylstoma braziliense*. The name "creeping eruption" has been retained and used specifically for this disease. The demonstration of the cause of creeping eruption was accomplished in the following way: (a) Third stage nematode larvae were recovered in five out of forty-eight skin excisions containing creeping-eruption lesions, studied from serial microtome sections; (b) cultures of infective nematode larvae were taken from the feces of the dog and the cat, examined in a locality where and when there was a high incidence of creeping eruption; (c) these larvae were applied to the human skin, and the advancing linear lesions of creeping eruption were thereby produced; (d) at autopsy on these dogs and cats only two species of worms having third-stage infective larvae were present (these were dog and cat hookworms recognized morphologically as *A. braziliense* and *A. caninum*); (e) characteristic lesions of creeping eruption were produced when larvae from pure cultures of *A. braziliense* were applied to the human skin, and (f) such lesions were not produced when pure cultures of *A. caninum* were similarly placed on the skin.

USE OF OUTPATIENT DEPARTMENT IN MEDICAL TEACHING

Irving S. Cutter, Chicago (*Journal A. M. A.*, March 24, 1928), presents a plan for the use of the outpatient department in medical teaching. He says: The outpatient department, well manned with teaching personnel, adequately equipped and supervised, constitutes by far the most important factor in the teaching of clinical medicine to undergraduate students. Seventy-five per cent of all undergraduate teaching in medicine can and possibly should be done in the outpatient department. It requires far greater skill, training and real thinking power to make a diagnosis and outline the management of a case in the outpatient department than in the hospital where the house officer, the intern and the nurse have all recorded significant data as to the history and the physical and clinical pathologic manifestations before the arrival of the clinician. Therefore, to place outpatient cases in charge of young, untrained clinical assistants and instructors defeats the plan and constitutes a ruthless waste of most valuable teaching material. Instructors of professorial rank should be in charge of each clinic each day, serving not only more acceptably to patients and students but as teachers of junior clinicians. There should be enough instructors in each clinic so that patients are not given perfunctory consideration but are handled as thoroughly and as expeditiously as private patients in a well managed office. Arrangement of personnel should be such that there will be a chief of clinic each day in each department to whom all questions of diagnosis may be referred, and who will take the two or three most valuable teaching cases and discuss them with the assigned student group before the close of the period. There should be a full-time fellow in each clinic in actual daily charge. This fellow, a graduate student, manages the clinic and is in entire charge of the nursing and social service personnel. Stenographers, nurses and social service clerks are a necessary part of the personnel. The proper equipment for good outpatient teaching is exactly that of the hospital, lacking only the feature of continuous care in bed. Such an equipment is essential even though the teaching hospital occupies the same or an adjoining building unless the hospital laboratories and services are ample and are under full control of the outpatient services. Outpatient teaching is advantageous both to the student and to the instructor.

DOCTORS

'Tis quite the thing to say and sing
Gross libels on the doctor—
To picture him an ogre grim
Or humbug-pill concocter;
Yet it's in quite another light
My friendly pen would show him—
Glad that it may with verse repay
Some part of what I owe him!

When one's all right he's prone to spite
The doctor's peaceful mission;
But when he's sick, it's loud and quick
He bawls for a physician;
With other things the doctor brings
Sweet babes our hearts to soften;
Though I have four, I pine for more—
Good doctor, pray, come often!

What though he sees death and disease
Run riot all around him?
Patient and true, and valorous, too,—
Such have I always found him!
Where'er he goes, he soothes our woes,
And, when skill's unavailing,
And death is near, his words of cheer
Support our courage failing.

—Eugene Field.

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HYPERNEPHROMA*

P. H. SALTER, M. D., F. A. C. S.,
Norfolk, Nebr.

In my 43 years in the practice of medicine, I had never seen a case of hypernephroma among my own patients, nor even in the larger hospitals I had attended from time to time. During the past year I have had two cases and I wish to present reports of them to you this evening.

The occurrence of hypernephroma is comparatively rare. Hyman reports 28 cases which came to operation at the Mount Sinai Hospital in New York during a period of seven years. At Johns Hopkins Hospital 32 cases came to operation in 16 years. There were 32 cases reported at Mayo Clinic up to 1921 and 14 cases at the Cancer Hospital of London up to the same date. Statistics by numerous authors show that hypernephroma is the predominating type of kidney tumor. And as far as I can find they constitute about 60% of all kidney tumors.

The discovery and description of hypernephroma is comparatively recent. In 1883 Grawitz first called attention to the similarity between the yellowish kidney tumors then known as liptomata and certain tumors of the adrenal gland. He proposed the name "strauma suprarenalis aberrata." The term "hypernephroma" was first suggested by Brich-Herschfeld in 1892 and that is the name now generally accepted.

There have been various theories as to the origin of hypernephroma but it does not seem to be fully settled as yet. Bothe in the Annals of Surgery says these different theories may be briefly stated as:

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*Read before the annual meeting, Elkhorn Valley Medical Society, Norfolk, Nebr., July 18, 1928.

"1. That they originate in adrenal cell rests.

2. They are alveolar sarcomata having nothing to do with cell rests.

3. That they are endotheliomata which take origin from endothelial lining of perivascular lymph-spaces.

4. That they are classified if benign as adenomata, if malignant as carcinomata.

5. That they develop from the endothelial cells lining the perivascular spaces.

6. That they are derived from the epathelial lining of the uriniferous tubules.

7. That they originate from islands of embryonic nephrogenic tissue."

Grawitz contended that "hypernephroma is a tumor which derives from the cortical tissue of the suprarenal gland and implants itself in the tissue of the renal parenchyma with preference for that of the inferior pole of the kidney". Cohnheim and some other authors attribute the origin of hypernephroma to the kidney itself. Nisio says: "Hypernephroma is a malignant tumor of the kidney formed by aberrant cells of the suprarenal capsule". Bland Sutton states: "Whatever view may be taken of the tissues in which these tumors arise, it is quite certain that they exhibit peculiarities of structure which distinguish them from ordinary round or spindle-cell species or sarcoma. Their malignancy is equally beyond question for they recur after removal and give rise to secondary nodules in the lungs. The frequency with which the lungs are affected is due to the primary tumor invading the renal vein."

Dr. Max Cutler of Johns Hopkins made a critical study of a collection of 116 cases of hypernephroma obtained from the records of Mayo Clinic, the Cancer Hospital of London and the Mount Sinai Hospital of New York besides their own. He gives the results of his investigations as to age and sex as follows: 20 to 30 years old, none; 30 to 40, 12.5%; 40 to 50, 25%; 50 to 60, 40%; 60 to 70, 21%. This would indicate that over 65% occur between the ages of 40 and 60. As to sex, there was a slight preponderance in the male. Some other authors place the difference at 63% males to 37% females.

As to kidney involved, he found that both were about equally affected.

The predisposing factors are sometimes spoken of as being due to injury although Wright reports one injury in 14 cases and Wilson gives 4 in his 32 cases. Over exertion frequently precedes the initial hematuria so common in this condition. In my own two cases there was no history of injury but the hematuria came on in both cases following considerable exertion. This bleeding coming on with or without pain is the first symptom the patient usually complains of. The duration of symptoms from the initial appearance of blood until the case is operated varies within wide limits. This variability is due to a number of factors. The rapidity of growth of the tumor and its location in the kidney determine to a large extent the time at which the bleeding first appears. Tumors which arise from the renal pelvis give rise to symptoms much earlier than those which originate in the cortex of the kidney. Wilson concluded from his observations that "small solid tumors well away from the renal pelvis are likely to cause no hematuria and no pain. They are apt to be symptomless and their surgical discovery is an accident."

The initial hematuria which is the one commonly first calling the patient's attention to their condition, may be slight or profuse, and it may be a warning to them to seek medical advice. Unfortunately this subsides very quickly and the patient feels that there is no cause for alarm and does not seek the doctor. The hematuria returns sometimes, only months afterwards when the growth has advanced so far as to be surgically incurable.

Dr. Cutter found the average duration of symptoms from the appearance of the first symptoms to the time of operation in his series was three and one-half years—the longest duration was 9 years and the shortest 3 weeks.

Hematuria is by far the most common symptom of the disease. It is rarely absent. The severity and duration of the initial hemorrhage vary. In the majority of cases, however, the bleeding is irregular and profuse. Eisendrath states that except in papilloma of the bladder, hematuria is most profuse in renal neoplasms. According to Danadara, the hematuria associated with hypernephroma is not so prolonged as in bladder tumors or some other conditions. In my two cases, the hematuria was very profuse on several occasions. In one, the lady told me she was sure that over a quart of blood was passed within a few hours. In both there was nearly always to be found microscopical bleeding at any time the urine was examined. Owing to the great frequency with which hematuria occurs in these kidney tumors, the presence or absence of blood in the urine becomes an important factor in the diagnosis. The cases in which a small, slowly growing tumor of the cortex of the kidney are the only ones that do not show hematuria.

A typical case is that of a patient past middle age who has been fairly well previously, following perhaps some over-exertion, passes some blood in the urine. The hemorrhage is usually profuse, at first mixed with the urine but later pure blood is passed. This is usually associated with sharp colicky pains in the kidney region and following the course of the ureter with perhaps sharp pains in the bladder. There may be passage of blood-clots after which the pain is relieved. The hematuria is nearly always intermittant.

Wright states "that hematuria is of two kinds. It may be due to a chronic interstitial nephritis produced by pressure of the slowly advancing growth. This form of hematuria is probably due to congestion, the blood is not profuse in amount and is intimately mixed with the urine. In the second type, the hematuria is more profuse and is associated with renal colic and the passage of clots. This type is due to direct involvement of the kidney pelvis by the growth, or to invasion of one of the larger veins in the renal cortex. It occurs at a later stage of the first type".

Pain is the next most common symptom. It is described as a localized soreness or discomfort in the kidney region, and is quite distinct from the pain associated with renal colic. Renal colic is present in a majority of the cases according to most of the writers but in my two cases neither complained of having colicky pains to any extent.

Frequency of urination is not commonly complained of unless there is cystitis present in the case. It is common in tumors of the bladder but rare in hypernephroma and this fact serves as a useful differential point in the history between the two conditions.

A tumor mass is nearly always to be made out in these cases of hypernephroma if the case has progressed for some length of time. The character and exact location of the mass depends upon whether the upper or lower pole of the kidney is implicated. The mass usually resembles a large irregular kidney. My second case showed a tremendous enlargement in the left kidney region, the lower border of which reached almost to the brim of the pelvis.

The association of renal calculi with hypernephroma is not uncommon. Albarran and Imbets reported twenty-six cases of renal tumor in which stones were present. Coryell found this condition present nine times in 146 renal tumors.

Fever is present in about 50% of the cases that have been reported. In my two cases, one had fever and the other did not.

Pyelography has been of very great help in the diagnosis of kidney tumors. Although there have been a few cases in which the pyelogram appeared to be normal, by far the majority of these tumors produce a markedly noticeable distortion of the kidney pelvis. In addition to the deformity of the kidney pelvis, there is also frequently a lengthening of the calices. In 1921 Colston published a series of interesting pyelograms calling attention to definite changes in the kidney pelvis and calices caused by tumors of the kidney. There is also a definite impairment of kidney function in the diseased organ as indicated by diminished phthalein excretion on the affected side.

To sum up the different points in diagnosis of hypernephroma, they are, briefly: History of hematuria and pain, palpation of a mass in the kidney region, unilateral hematuria as indicated by cystoscopic examination, diminished kidney function on the affected side, and the presence of a distorted kidney pelvis as revealed by pyelography.

Case 1. Mrs. H. F. T., female, age 57. Large, well-built, healthy appearing. Married 32 years. Had seven children of whom only two are living, two boys, 28 and 18, both healthy. Four children died in childhood. One daughter died in 1923 of Addison's disease, perhaps a coincidence. Her father and mother both lived to be over 80 years of age. She had six sisters and one brother, all living and in good health. She was usually healthy, never had any severe sickness.

She was operated for subacute appendicitis five years ago by myself and at that time there was found in the urine no evidence of any other troubles. She did pass some kidney gravel seven years ago, but the condition cleared up promptly and she did not consult a physician. In 1923, 5 years ago, she passed a kidney stone but was only laid up for a few days. Following this attack she had albumen in the urine for some little time but this gradually cleared up under treatment, lasting altogether about two months. At no time during this period was microscopic blood discovered in the urine. The following year, 1924, she passed a little blood but little consideration was given to this as it was ascribed to the kidney stones. She was moderately well following this attack when on May 7th, 1927, after a rather hard day's work, she passed a large quantity of blood—she thinks there must have been a quart, but I saw her at that time and figured that there was at least a pint of clear blood. A peculiar point about this condition was that her pain and soreness was on the right side over the right kidney and ureter. The blood in the urine persisted for about 3 weeks and on May 25th, examination showed the urine clear, acid, S. G. 1.018, no albumen, no sugar, no blood microscopically.

All symptoms cleared and she was quite well during the summer and fall of 1927. The urine was examined at intervals but there was nothing pathological found.

In January, 1928, she began to complain of pain again but mostly in region of right kidney. Examination of the urine, January 6th, was as follows: Quantity, about 3 pints, acid; color, light amber; S. G. 1.020; albumen, slight trace, no sugar; Red B. C., few; pus cells, numerous; epithelium, few squamous.

January 20th, 1928. Dr. E. L. Brush made a cystoscopic examination of the bladder. Found the bladder wall and ureteral orifices normal but there was bloody urine coming from the left ureter. On January 30th, 1928, Dr. Brush cystoscoped her again and, besides, made pyelograms of both kidneys. Also kidney function—the right kidney seemed to be perfectly normal in every respect, both as to appearance of the pyelogram, kidney function and microscopic urine. The left kidney pyelogram showed a very much enlarged kidney reaching from the 10th rib to the crest of the ilium. The calacies were elongated and spread out. The pelvis was much dilated and was pushed down to such an extent that the ureter was kinked. The phenophthalien in test came through in 9 minutes—about 1-3 of normal. The urine showed microscopic blood.

A diagnosis of Hypernephroma was made and operation offered, but owing to opposition, consent was not gained until in March. On the 24th of that month we operated her at the Lutheran hospital. The usual lumbar incision was made and the kidney exposed. Owing to the large size of the organ the incision had to be extended almost to the anterior-superior spine of the ilium and then great difficulty was had in delivering it through the opening. It lay in a mass of enlarged veins, and these were very thin walled and friable, breaking when under most moderate tension. They all seemed to be filled with yellowish lipomatous material. The ureter and renal vessels were hard to localize and when found were situated at the lower pole and well down in the abdomen. The size of the kidney when removed was about 8 inches long, 4 inches wide and 2½ inches in thickness. The hemorrhage was profuse—so much that we feared she would bleed to death. Many forceps were applied. The vessels were so friable that ligatures cut through them and we had to leave the forceps in situ. The wound was closed as far as practicable and dressed—she was given 500 cc of glucose in the vein and put to bed. The forceps were removed at the end of seventy-two hours and she made an uninterrupted recovery. The wound was completely healed in about four weeks and now, four months afterwards, she is in very good health. So far there has been no evidence of any metastitis in either the lungs, bones or other part of the body.

The pathological report from Dr. A. S. Rubnitz was as follows: "Sections of the kidney of your patient, Mrs. H. F. T., consist of solid masses of cells with very little supporting structure. The cells are small and round, scattered here and there are nests of large undifferentiated cells, with a few hemorrhage areas.

There is no normal kidney tissue present. The small cells, while they have some resemblance to the kidney cell, are arranged in flat masses with no tendency to tubular formation.

Diagnosis—Hypernephroma."

Case 2. Mrs. E. N., age 50. Undernourished, anaemic looking woman, 5 ft. 5 in. in height, weighing 110 lbs. I saw her first on May 28th, 1928, for her present sickness. Have known her for past 35 years. Always healthy excepting for some subacute attacks of appendicitis, none of them severe. Has complained of uterine trouble with excessive flowing before she passed the climateric some two years ago. She has a moderately large fibroid but think it has decreased in size during the past two years. Has not had any flowing since the change of life.

Father died at 50 of apoplexy, mother died two years ago of heart disease. Had two sisters, one of them living and one dead. The latter was killed in an accident. Two brothers living and healthy.

She had her first symptoms of the present trouble three years ago in summer when she passed blood in the urine with some irritation. This lasted about three weeks. Had another attack in the following winter. The hematuria only lasted four days. Had no examination nor treatment at that time. In August, 1926, she had quite a severe attack with colicky pains and the passage of blood. This followed a severe strain in lifting. The pains were quite severe in the left side under the ribs. Was treated by a physician and recovered within a short time although she complained of an uncomfortable feeling persisting in left side which was made worse by bending over. This lasted for a month or two. Was fairly well during the following year although at times she felt uncomfortable in the left side. She says the left side felt full as if something were pressing under her ribs. In September, 1927, noticed bloody urine again being passed and at that time had frequency in passing urine. Evidently a mild cystitis. On the 7th of that month, had a quite severe attack of colic which was only relieved by morphine. She passed a considerable amount of bloody urine and some pure blood. This attack lasted for four or five days, then she was well again without any symptoms until Nov. 17th, 1927. Another attack came on much like the one in September, but she passed larger quantities of blood and the attack lasted until December 1st. A physician examined her at that time and took x-ray of the abdomen but no cystoscopic examination was made. She saw several different doctors from then until April, 1928, when she placed herself under an osteopath who treated her for three weeks. She became much worse under his treatment and the left side became much enlarged and very painful and tender. She also lost flesh rapidly and when I saw her first on May 27th, 1928, she appeared a very sick woman.

I found the following condition: General appearance poor; height, 5 ft. 5 in.; weight, 110 lb.; pulse 90; temperature 100; resp. 20; B. P. 110-84; heart and lungs normal; liver normal; spleen normal; a large mass could be made out in left side of the abdomen extending from the 10th rib down to the pelvis. It was very tender on pressure, felt like a semifluid tumor. The pelvis was filled with a large uterus about size of a two months' pregnancy. It was very hard and solid and I took it to be a fibroid growth. There was no discharge from the cervix.

The first 24 hours after admission to the hospital she passed 20 oz. of urine. The S. G. was 1.010; acid, amber color; albumen, a trace; sugar, none; R. B. cells, numerous; a few pus cells; no bacteria; no crystals; squamous cells, a few; and bladder cells, numerous. An x-ray was made of the abdomen, which I present.

She was put on supporting treatment. On June 16th, Dr. Brush made a cystoscopic examination. There was nothing pathological found in the bladder or ureteral orifices, but owing to her vomiting and inability to retain water he did not attempt to make a phthalien test at that time as the flow of urine was so sluggish. Urine flow from righ ureteral catheter was clear and normal. From left it was bloody. He made a pyelogram which showed the right kidney, pelvis, and calices normal. The left kidney was very much enlarged, the calices elongated, distorted and spread out. From these findings we made a diagnosis of kidney tumor—probably hypernephroma.

Her condition has improved under treatment but she is still in poor condition. I have failed to gain her consent to remove the kidney. I realize that our diagnosis is only tentative and can only be cleared up definitely either by biopsy or necropsy.

There is little to be said about treatment in these cases. All the writers I have been able to consult agree that medical treatment is useless, radium and roentgenotherapy are merely palliative and that nephrectomy is the only efficacious therapeutic procedure.

The hardest patients in the world to please are the kiddies. If you are too rough with the back of the spoon, if your hand is too cold when you touch the youngster, or, worst of all, if your medicine tastes like cheap varnish, your name will be anathema in the nursery.

INCIDENCE OF SYPHILIS IN THE OBSTETRICAL CLINIC AT THE UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE

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After reading the following report of the Medical Women's National Association, by Valeria H. Parker(1), concerning the study of prenatal clinics and finding that the average percentage of incidence of syphilis in pregnant women was 8.3%, we decided it was our duty to study this problem in Omaha. Figures will be given on the number of stillbirths and miscarriages in the groups of women having four, three, two and one plus Wassermanns—and the incidence of syphilis in our obstetrical patients.

The resume of the above-mentioned report is as follows:

At a meeting of the Medical Women's National Association in 1925 a special subcommittee was appointed to make a study of the activities of prenatal clinics, with special reference to the efforts toward detecting the presence of syphilitic infection in the pregnant women under their care, and the methods of diagnosing, treating control, and follow-up of such cases. To this end 303 questionnaires were sent out. The replies suitable for study covered 37 clinics in 19 communities scattered from New York to California and from Massachusetts to Alabama. The small percentage of returns is attributed to the fact that no special efforts are being made in caring for the pregnant women to diagnose and treat syphilis, and, therefore, there is no information to give. Inadequate records are kept if such work is performed, and lack of understanding and interest in the proposed survey is evident.

During 1923, the year covered by the questionnaire, the reporting clinics treated a total of 10,290 patients. Fifteen of these organizations, with a total of 6,300 patients, were unable to furnish figures on syphilis. The average percentage of incidence of the disease for the group was 8.3 per cent. In this survey nine of the reporting clinics, covering a total of 3,400 patients, were able to classify their cases according to the stage of pregnancy when first seen, showing that 76 per cent of these patients come to the clinic before the end of the sixth month of pregnancy, at which time antisyphilitic treatment must be begun if it is to be effective.

In summarizing the data on prenatal clinics it was found that the majority of the clinics were free. Five-sixths of them keep a record of all cases of syphilis discovered, and as a group have an average percentage of incidence of 8.3 per cent. Almost none of the reporting clinics were able to give any figures at all on miscarriages or stillbirths. Five-sixths of the reporting organizations make a complete physical examination and get the past obstetrical history at the patient's first visit. Only half of them take a routine Wassermann test. Only about half do any follow-up work on syphilis cases. Two-thirds of the group report cooperation from other agencies in reporting cases of syphilis for treatment.

Our clinic at the University of Nebraska is free and we make complete physical examinations and take routine Wassermanns on every pregnant woman. Our social service department attempts follow-up work on the syphilis patients and we require the mother and child to report back to the clinic for further examinations after they have been cared for at the University Hospital. Antisyphilitic treatment is begun as soon as the patient is found to have lues.

The technique of the Wassermann test is as follows:

The method is that of multiple antigens, the ones employed being a carefully prepared and standardized alcoholic extract of beef heart, with and without the addition of 0.2% of pure cholesterol. Fixation is carried out in the refrigerator for about fifteen hours. An antisheep erythrocyte hemolytic system is used.

The following is a chart showing the incidence of syphilis in the obstetrical clinic at the university of Nebraska, College of Medicine.

Dispensary Obstetrical Patients with Positive Wassermann, in a series of 1200 Obstetrical Admissions		132
Number of patients having 4 plus Wassermann,	51	
Number of patients having 3 plus Wassermann,	14	65
Number of patients having 2 plus Wassermann,	33	
Number of patients having 1 plus Wassermann,	34	67
Total		132

These 132 luetic patients occurred in a series of approximately 1200 obstetrical patients. A diagnosis of syphilis cannot be positively made on a one and two plus Wassermann. Therefore, 67 of these cases must be discarded, leaving only 65 cases of syphilis to be found in 1200 obstetrical patients.

This gives an average of 5.5% of syphilitic women in our Clinic in obstetrics at the University of Nebraska College of Medicine. This average corresponds with F. J. Browne's(2) experience in the antenatal clinics in New York City, where the frequency of syphilis is at most about 7%; and also the findings of Stilians(3) at the Chicago Lying-In Hospital where the frequency

OBSTETRICAL PATIENTS WITH 4 PLUS WASSERMANNS

NAME AND NO.	AGE	RACE	FORMER PREGNANCIES	GRAVIDA	WASSERMANN	WHEN DELIVERED	TREATMENT	REMARKS
1 B. G.	19	White	One	Two	4 plus	7-24-21	None	Stillbirth.
2 L. F.	25	White	Four	Five	4 plus	10-19-26	None	2 months abortion.
3 P. S., No. 32758	23	Colored	One	Two	4 plus	10-25-25	Neo Metz 8.	2 to 3 months abortion.
4 M. P., No. 30255	19	Colored	One	Two	4 plus	6-25-26	None	Stillborn. Full term.
5 C. O., No. 30820	40	White	Fourteen	Fifteen	4 plus	13 yrs. ago.	None	Normal delivery. Child congenital syphilis.
6 I. C., No. 31776	22	White	Six	Seven	4 plus	3-17-26	Neo Metz 2	Normal.
7 E. S.	21	Colored		Two	4 plus	4-5-26. Hospital. June 26, due.	1½ years rest. 72 Hg and 12 Neo Metz	Normal.
8 H. W., No. 33411	25	White		One	4 plus	2-21-26. Out call	None	Normal.
9 M. C., No. 33292	24	Black		One	4 plus	2-7-26	6 salvarsan	Normal delivery.
10 A. W., No. 23686.	28	Colored	2 Misc.	Three	4 plus	10-31-26	Neo Metz 1	Stillborn.
11 E. U., No. 26392	27	Colored	Three	Four	4 plus	1-12-26	Neo Metz 7 Hg. sal. 5	2 Caesarean normal babies. Tubes cut. Justo-minor pelvis.
12 F. S., No. 24427	29	White	Five	Six	4 plus	10-10-24	Neo Metz 3 Hg. Sal. 10	Normal child.
13 A. T., No. 24112	19	Colored	One	Two	4 plus	10-27-26	Neo Metz 2	Stillborn. Mother died.
14 L. N., No. 35485	26	Colored	Two	Three	4 plus	9-29-26	Neo Metz 7	Normal delivery.
15 B. C., No. 35461	20	Colored	1 Misc.	Two	4 plus	1-22-27, due.	Neo Metz 4 Hg. Sal. 5	Normal delivery 2-1-27.
16 V. M., No. 2920	22	Colored		One	4 plus	7-25-26	Neo Metz 6	Normal baby.
17 G. M., No. 34678	18	Colored		One	4 plus	5-25-26	Neo 1	Normal del. 8 mo. fetus, lived 10 days. Foetal Wass. 4 plus.
(Same Patient)	20	Colored	One	Two	4 plus	6-5-28		Baby lived 1 hr.
18 C. C., No. 19567	20	White		One	4 plus	2-11-26	Neo Metz 2 Bis. sal. 12	Impetigo. Otherwise normal.
19 B. T., No. 32621	25	White	One	Two	4 plus	1-6-26. Home, Harlan, Ia.	Neo Metz Bis.	Normal.
20 A. B., No. 23491	23	White	Four	Five	4 plus	7-31-26	Neo Metz 4 Bis. sal. 7	Normal boy.
21 M. B., No. 33774	26	Colored	Three	Four	4 plus	Oct. 1926. Home	Neo Metz 6	Normal. First pregnant at 12 years.
22 A. G., No. 33340	25	White		One	4 plus	2-12-26	Neo Metz 10 Hg. sal. 5	Normal.
23 G. W., No. 20703	16	White		One	4 plus	4-25-26	Neo M. Hg. sal	
24 G. K., No. 32980	24	White		One	4 plus	12-20-25	Neo Metz 4 Hg. sal. 2	Normal.
25 E. K., No. 20286	38	White	Seven	Eight	4 plus	11-16-25	Neo M. Hg. Sal	Normal.
26 E. B., No. 21174	40	White	Four	Five	4 plus	5-17-24	Neo M. Hg. Sal.	Normal.
27 P. B., No. 30074	23	White	One	Two	4 plus	6-25	Neo M. Hg. Sal	Normal. Wass. normal.
28 M. G., No. 38126	24	White	One	None	4 plus	7-31-27, due.	Neo 1	Miscarriage. Baby 5 hrs. 1st preg., 1922.
29 L. I., No. 38181	26	White	Three	One	4 plus	8-26-27	None	Miscarriage. Stillbirth.
30 H. P., No. 38057	22	Colored	None	None	4 plus	7-22-27	Neo 3	
31 E. O., No. 38026	25	White	One	One	4 plus	9-1-27	Neo 2	1st normal.
32 G. M., No. 37939	18	White	One	One	4 plus	8-20-27	None	Normal.
33 M. B., No. 30414	30	White	Four	Four	4 plus	4-20-27	None	Normal.
34 A. J., No. 37009	23	White	Two	One	4 plus	1-24-27	None	Miscarriage 7 months.
35 McG., No. 28879	27	White	Three	Three	4 plus	4-25-27	None	Normal.
36 J. S., No. 38558	21	White	One	One	4 plus	August, 1927	4 Neo Metz	Normal.
37 M. O., No. 38689	23	White	Four	Two	4 plus	June 16, 1927	17 Neo M. 33 bis	Normal.
38 A. J., No. 32592	23	Colored	One		4 plus	March 23, 1928	8 mercury 8 Neo Metz	Normal.
39 N. M., No. 18119	15	Colored	One	Two	4 plus	Jan. 4, 1928	None	Normal.
40 B. E., No. 38834	18	White	One		4 plus	9-30-27	None	Normal.
41 I. D., No. 38974	24	White	One	Two	4 plus	10-20-27	9 Neo. 9 bis.	Stillborn.
42 I. C., No. 38889	20	Colored	One	Two	4 plus	March, 1928	None	Child normal and well.
43 F., No. 21596	21	White			4 plus	9-26-27	10 Neos. 18 bis	Baby blind. 2 neg. Wass. Left club foot, congenital syphilis. Con. cataract.
44 G. H., No. 38748	36	White	Nine	Four	4 plus		None	4 miscarriages.
45 V. C., No. 33352	21	White	Four	One	4 plus	1-28-28	9 Neo. 20 bis.	Foetus died day of birth.
46 A. S., No. 36454	27	White	Two	One	4 plus	1-16-28	None	Baby normal. Delivered in Ford Coupe.
47 C. W., No. 40052	28	Colored	Four	Two	4 plus	2-20-28	Neo 1.	1 miscarriage.
48 M. G., No. 3186	22	Colored	Six	Seven	4 plus	Private physician		
49 M. F., No. 17188	32	White	Three	Four	4 plus	4-20-28	19 Neo Metz 27 Bis.	Stillbirth.
50 D. H., No. 4070	16	Colored	None	One	4 plus	June, 1928, due.	2 Neo Metz.	
51 M. D., No. 36256	20	Colored	One	Two	4 plus	Due June, 1928.	None	

OBSTETRICAL PATIENTS WITH 3 PLUS WASSEMANNS, UNIVERSITY OF NEBRASKA

NAME AND NO.	AGE	RACE	FORMER PREGNANCIES	GRAVIDA	WASSERMANN	WHEN DELIVERED	TREATMENT	REMARKS
1 L. S., No. 26361	23	Colored	Two	Three	3 plus	4-6-26	None	Baby Wass. 10-14-26.
2 M. B., No. 2446	26	White	Two	Three	3 plus	8-7-23		Normal delivery. Child syphilic.
3 M. B., No. 35782	33	Colored	None	One	3 plus	10-7-26	3 Neo Metz 3 hg. sal.	Baby died.
4 M. J., No. 34123	21	Colored	None	One	3 plus	6-10-26	9 Neo Metz	Baby syphilic. Normal looking.
5 E. S., No. 24818	21	White	Two	Three	3 plus	April, 1926	10 Neo Metz 10 hg. sal.	Normal.
6 I. B., No. 33412	17	White	One	One	3 plus	?	10 Neo Metz 10 hg. sal.	Normal. Baby born before mother came here for treatment.
7 R. R., No. 28523	30	Colored	Five	Six	3 plus	6-26-25	Neo Metz 17 Hg. Sal. 8	Normal.
8 D. K., No. 20611	22	White	Two	Three	3 plus	9-25-25	20 Hg. Sal.	Normal baby.
9 M. D., No. 36256	20	White		One	3 plus	3-8-27		
10 P., No. 36852	17	White	None	None	3 plus	3-13-27	None	Normal.
11 G., No. 36456	17	White	None	None	3 plus	11-8-26	None	Normal.
12 M. D., No. 38175	17	White	None		3 plus	1-1-28, due.	None	Normal.
13 L. L., No. 37338	28	Colored	Three	Two	3 plus	Due?	None	Date unknown.
14 H., No. 15413	29	White	Five	Three	3 plus	Normal delivery 1-11-28	None	Miscarriage 11-24-28. Two months.

of syphilis is 6%. J. R. McCord(4) at Emory University School of Medicine in Atlanta, Georgia, where 60% of the negro babies are born, reports that 57% of the stillbirths or deaths before leaving the hospital are caused by syphilis. By efficient prenatal treatment the incidence of 4 plus Wassermann reactions at time of labor has been reduced from 30 to 23% in 1926 and to 13% in 1927. This is another effective argument in favor of prenatal care.

In one series of 51 patients having a 4 plus Wasserman, there were 52 stillbirths and miscarriages in the histories of 16 patients in this group.

CAUSATION OF STILLBIRTHS AT UNIV. OF NEBR. COLLEGE OF MEDICINE — UNIV. HOSPITAL.

NO.	NAME	COLOR	HOSP. NO.	AGE	Grav.	WASSERMANN	LABOR RECORD AND CLINICAL FINDINGS	CAUSE OF PREMATURITY OR DEATH	OTHER FINDINGS
1	Mrs. E. H.	B.	9848	27	5	4 plus	Normal delivery. Baby girl.	Cause Unknown.	Negative.
2	Mrs. M. W.	W.	9905	35	5	Neg.	Caesarian section. Dead fetus.	Monster	Anencephalic fetus. Patient had heen previously operated. Right ovary removed.
3	Mrs. R. G.	W.	9901	38	7	Neg.	Stillborn. Monstrosity.	Monster.	6 other children, living and well.
4	Miss M. T.	W.	9547	16	1	Neg.	8 mo. premature baby. Slightly lacerated.	Prematurity. Bag of waters ruptured at 8 months.	
5	Mrs. A. M.	W.	9534	28	6	None	High forceps. Prolapsed cord. Stillborn.	Complications of labor.	5 children, living and well.
6	Mrs. C. P.	W.	9225	23	4	Neg.	Stillborn. Labor induced.	Maternal disease. Vomiting.	
7	Mrs. M. C.	W.	8931	24	1	Neg.	Deformed baby. Manual dilatation of cervix.	Fetal deformity.	Baby had club feet, cleft palate.
8	Mrs. H.	W.	8889	18	1	None	Forceps delivery. Cervix incised and repaired.	Toxemia. Child 1 month premature.	Eclampsia. Patient died. B. P. 170-124. 2 plus albumin.
9	Mrs. G. B.	B.	8859	19	1	Neg.	Stillbirth.	Maternal justo-minor pelvis.	
10	Mrs. E. A.	W.	8670	23	1	3 plus	Stillborn. 7 mo.	Syphilis and prematurity.	
11	Mrs. H.	W.	8665	28	4	Neg.	7 mo. premature fetus.	Prematurity. Uterine contractions started. Cause unknown.	3 children, living and well. 2nd child 7 mo. baby, lived.
12	Mrs. T.	W.	8050	18	1	3 plus	Normal delivery.	Syphilis.	
13	Mrs. E. G.	W.	9188	31	7	Plus minus	Normal delivery. 7 mo. fetus.	Prematurity.	4 children, living and well; 1 died at 7 mo., 1 miscarriage at 1 mo.; 2 dead from prematurity.
			5993	32	8	2 plus	7 mo. baby.	Syphilis?	
14	Mrs. S.	W.	8358	18	1	None	7 mo. fetus. Normal delivery.	Prematurity.	
15	Mrs. K. J.	W.	7609	29	4	None	Podalic version. After packing cervix on acct. placenta praevia. Patient died from hemorrhage.	Placental state. Asphyxia.	Baby died 2 hours after delivery.
16	Mrs. M.	W.	7890	39	5	None	4 mo. pregnant. Induced labor. Patient died.	Maternal disease. Mitral stenosis and decompensation.	
17	Mrs. C.	B.	7852	29	1	2 plus	Stillborth. Patient delivered in automobile. Placenta expressed in hospital.	Syphilis?	
18	Mrs. L.	W.	8040 7712	25	2	None	Normal delivery. Dead fetus. Abruptio-placenta.	Placental states.	
19	Mrs. G. H.	W.	7535	21	2	Neg.	Vaginal Hysterotomy. 3-mo. fetus. In hospital 32 days, died.	Material disease. Hyperemesis gravidarum toxic encephalitis.	
20	Mrs. P. W.	W.	15714 15887	37	2	4 plus	Dead macerated fetus. Full term.	Syphilis.	
21	Mrs. K. J.	W.	18445	33	8	Neg.	Normal delivery	Unknown.	
22	Mrs. M. M.	W.	17504 17651	26	3	Neg.	Macerated fetus. 7 mo.	Toxemia of pregnancy. 4 plus alhum. B. P. 175-100.	
23	Mrs. S. C.	B.	18230	35	3	Neg.		Toxemia of pregnancy. B. P. 250-150. 4 plus album. Convulsions.	
24	Mrs. I. T.	W.	18075	21	2	Neg.	6 months pregnant. Bleeding for 7 days.	Antepartum hemorrhage.	
25	Mrs. E. C.	W.	14217	35	3	None	6 months fetus. Normal delivery.	Prematurity.	
26	Mrs. V. G.	W.	16385 15165	21	4	None	Full term dead fetus. Central placenta Praevia.	Placental states and pyelitis.	
27	Mrs. C. M.	W.	16096	21	1	Neg.	Loa Rectal anaestbesia. Dead fetus. Slow labor.	Complications of labor.	
28	Mrs. L. G.	B.	15483	18	1	None	Potter version—twins. Both breech.	Toxemia of pregnancy.	Patient had convulsions. B. P. 185-215. 2 plus albumin.
29	Mrs. D. V.	W.	14575	22	1	Neg.	6 months twins.	Fetal states. Multiple pregnancy.	
30	Mrs. A. D.	B.	15832	27	3	4 plus	Spontaneous delivery. Stillbirth 7 mo.	Syphilis and ante-partum bleeding.	Bleeding for 2 weeks before delivery. Had 2 children hy first hushand, aged 5 and 7.
31	Mrs. S. W.	W.	14488	35	5	Neg.	Stillhorn. Potter version.	Complications of labor.	Patient an epileptic, had 1 miscarriage, 1 stillbirth, 2 living children.
32	Mrs. M. C.	W.	14460	44	5	Neg.	Normal delivery. Stillborn	Cause Unknown.	
33	Mrs. A. W.	W.	14853	20	1	Neg.	6 mo. twins, both died premature labor.	Fetal States.	
34	Mrs. B. K.	W.	14208	22	3	None	Podalic version transverse position. Difficult extraction.	Complications of labor.	
35	Mrs. V. E.	W.	16761	20	1	None	Spontaneous abortion 6 mo.	Unknown.	Fall.
36	Mrs. S. R.	W.	18638	18	1	Nono	Spontaneous abortion 6 mo.	Unknown.	
37	Miss E. A.	W.	16127	21	1	Neg.	Normal—6 mo.	Unknown.	G. C. infection. Condylomata accuminata.
38	Mrs. M. G.	W.	15838	21	4	None	Spontaneous 7 mo. hreech.	Complications of labor.	Patient had severe fall.
39	Mrs. J. S.	W.	12807	37	10	None	4 mo. stillbirth. Abom. hysterectomy.	Toxemia of pregnancy.	Hypertension headaches. B. P. 340-150. Dizziness.
40	Mrs. F.	W.	12624	30	8	Neg.	Breech full term.	Fetal state, breech.	Had 5 stillbirths, 2 at term, 2 at 8 mo.
41	Mrs. G. H.	W.	15273	19		None	Low implantation of placenta.	Placental state.	Cord about neck twice.
42	Mrs. M.	B.	10430	29	6	None	Normal delivery. Stillborn.	Cause unknown.	
43	Mrs. B.	B.	10556	18	1	None	Caesarian section for contracted pelvis.	Cause unknown.	
44	Mrs. H.	B.	12265	23	3	Neg.	Shoulder presentation of premature fetus. Podalic version.	Complications of labor.	
45	Mrs. C.	W.	11733	36	5	1 plus	Normal delivery. 6 mo. fetus.	Prematurity.	All other children premature.
46	Mrs. S.	B.	10010	35	7	4 plus	Stillborn. Breech prolapse of cord.	Syphilis. Complications of labor. Kidney of pregnancy.	4 plus alb. B. P. 175-100. Patient had had 2 previous miscarriages. 4 living children.
47	Mrs. B.	W.	9943	32	3	Neg.	Macerated fetus. Eclampsia.	Toxemia.	B. P. 180-110, alb. 4 plus. Patient very fat. 3 weeks overdue.
48	Mrs. W.	W.	12259	24	2	Neg.	Potter version. 8 mo. pregnant.	Toxemia.	B. P. 235-165. Alh. 4 plus.
49	Mrs. E. D.	W.	10602	28	1	Neg.	Premature 7 mo. fetus. Normal delivery.	Prematurity.	
50	Mrs. D.	W.	10739	37	4	Neg.	Podalic version. Stillbirth.	Complications of labor.	Ectopic pregnancy 10 yrs. previous. 1 miscarriage 6 yrs. previous.

CAUSATION OF STILLBIRTHS AT UNIV. OF NEBR. COLLEGE OF MEDICINE—UNIV. HOSPITAL

NO.	NAME	COLOR	HOSP. NO.	AGE	Grav.	WASSERMANN	LABOR RECORD AND CLINICAL FINDINGS	CAUSE OF PREMATURITY OR DEATH	OTHER FINDINGS
51	Mrs. C.	B.	11267	40		4 plus	Stillbirth. Normal delivery.	Syphilis.	
52	Mrs. M.	B.	11543	18	1	1 plus	3½ lb. baby boy delivered after ureteral catheterization.	Maternal disease.	Pyelitis. Uret. cath. followed by labor pains.
53	Mrs. M.	W.	17519	32	3	Neg.	Version and extraction time O. K.	Complications of labor.	1 child dead. Diabetes.
54	Mrs. R.	B.	11414	19	2	2 plus	Breech. Stillborn.	Syphilis?	1 accidental miscarriage. Next year had normal baby. Wassermann still 2 plus.
55	Mrs. S.	W.	12305	28	5	Neg.	Normal delivery of monster.	Fetal state. Monster.	
			13249	29	6	Neg.	Anencephalic.		Birth of normal child 1 year later.
56	Mrs. L. G.	B.	15483	18			Full term stillbirth.	Toxemia of pregnancy.	B. P. 178-105. Alb. 2 plus.
57	Mrs. A. B.	B.	15236	24	1	Neg.	Breech delivery. Excessively large child.	Complications of labor.	
58	Mrs. P. H.	B.	3271	20	2	2 plus	Stillbirth. Low forceps.	Syphilis? Toxemia of pregnancy.	2 plus alb.
59	Mrs. E. C.	B.	3581	36		None	8 mo. fetus. Aborted.	Maternal disease.	Patient had pneumonia.
60	Mrs. C. F.	B.	3555	20	1	Neg.	Caesarian. Stillbirth. Flat pelvis.	Complications of labor.	
61	Mrs. McQ.	W.	4230	42	5	None	Podalic version. 7 mo. fetus.	Toxemia of pregnancy.	Eclamptic patient. B. P. 190-100. Patient died.
62	Mrs. H.	W.	5106	22	2	Neg.	Normal delivery. Stillbirth.	Placental states. Many placental infarcts.	1st baby died on 2nd day. Cause unknown.
63	Mrs. L. B.	W.	4867	20	1	4 plus	6 mo. stillbirth.	Syphilis.	Patient had G. C. Bartholin abscess and bilateral salpingitis.
64	Mrs. J. V. L.	B.	4496	23	1	3 plus	Forceps delivery. Stillbirth.	Syphilis.	
65	Mrs. K. B.	W.	7458	32	6	None	Caesarian section. Stillbirth.	Toxemia of pregnancy.	Patient had convulsions. Eclampsia.
66	Mrs. M. R.	W.	5578	38	3	None	7½ mo. breech. Justo-minor pelvis.	Maternal disease. Mitral stenosis. Justo-minor pelvis.	Patient had Caesarian 2 years previous.
67	Mrs. R. M.	W.	7439	37	8	Neg.	Patient died before delivery. 6 mo. fetus.	Maternal disease. Patient had diabetes and pneumonia and nephritis.	Blood sugar 200 mgm. N. P. N. 32 mgm. Hyaline and granular casts.
68	Mrs. C.	C.	7852	29	1	2 plus	Stillbirth. Delivery in auto on way to hospital.	Syphilis.	
69	Mrs. E. A.	W.	8670	23	1	3 plus	Full term. Stillbirth.	Syphilis.	
70	Mrs. G. B.	C.	8859	19	1	Neg.	Full term stillbirth. Male type pelvis.	Complications of labor.	
71	Mrs. C.	C.	8931	24	1	None	Stillbirth. Head and feet deformed.	Fetal states. Monster.	
72	Mrs. A. M.	W.	9356	28	5	None	Stillbirth. High forceps. Prolapse of cord.	Complications of labor.	
73	Mrs. G.	W.	9901	38	6	None	Stillbirth. Anencephalic monster.	Fetal State. Monster.	
74	Mrs. W.	W.	9905	35	9	None	Caesarian section. Anencephalic monster.	Anencephalic monster.	
75	Mrs. F. B.	W.	9943	32	2	None	Stillbirth. Fetus macerated.	Toxemia.	Eclampsia. Patient had 1 previous stillbirth.
76	Mrs. S.	C.	10010	35	6	4 plus	Stillbirth. Breech presentation.	Syphilis. Toxemia.	Patient a pre-eclamptic. Had 2 previous miscarriages.
77	Mrs. M.	C.	10430	29	6	Neg.	Stillbirth. Full term baby boy.	Unknown.	Patient had 4 children, living and well. One previous miscarriage.
78	Mrs. D.	W.	10739	37	4	None	Stillbirth. Podalic version. Long labor.	Complications of labor.	
79	Mrs. G.	C.	11267	40	1	4 plus	Full term, stillbirth.	Syphilis.	
80	Mrs. R.	C.	11414	26	1	2 plus	Stillbirth. Breech presentation.	Syphilis. Complications of labor.	
81	Mrs. H.	C.	11667	29	5	3 plus	Stillbirth.	Syphilis.	Patient had 2 previous stillbirths and 2 miscarriages.
82	Mrs. S.	W.	12305	29	4	None	Stillbirth.	Anencephalic monster.	
83	Mrs. C.		13064	17	1	Neg.	Caesarian section. Dead macerated fetus. 7 mo.	Complications of labor and toxemia.	Pre-eclampsia. Prematurity.
84	Mrs. K.	W.	14208	22	3	None	Podalic version. Breech. Stillbirth.	Complications of labor.	
85	Mrs. C.	W.	13864	44		None	Full term, stillbirth.	Cause unknown.	
86	Mrs. F. S.	C.	14890	27		4 plus	Forceps delivery. Stillbirth.	Syphilis.	
87	Mrs. N.	W.	16019	19	1	4 plus	Stillbirth.	Syphilis.	
88	Mrs. W.	C.	16206	26	2	4 plus	Full term, stillbirth.	Syphilis.	1st child lived only 9 days.
89	Mrs. C.	W.	17178	27			Breech. L. S. A. Stillbirth.	Complications of labor.	
90	Mrs. W.	W.	17923	34	1	None	Stillbirth.	Maternal disease.	Mitral stenosis.
91	Mrs. I. T.	W.	18075	21	1	None	Stillbirth. Premature fetus. Placental praevia.	Placental state.	
92	Mrs. P.	C.	18083	38		3 plus	Full term, stillbirth.	Syphilis.	
93	Mrs. B. C.	W.	18236	18	1	Neg.	Stillbirth. Cord about the neck.	Complications of labor.	
94	Mrs. L. K.	W.	18440	22		None	Stillbirth. Placental praevia.	Placental state.	
95	Mrs. L.	W.	19647	17	1	None	Stillbirth. Breech presentation.	Complications of labor.	
96	Mrs. M. H.	W.	19929	29	3	None	Stillbirth. Breech premature.	Complications of labor.	
97	Mrs. S.	C.	2109	30		None	Stillbirth.	Maternal disease.	Patient died while anaesthetized.
98	Mrs. T.		2087			4 plus	Stillbirth.	Syphilis.	Patient died of general septicemia. Had osteomyelitis of pubis.
99	Mrs. W.	C.	2858	28	3	None	Stillbirth. Difficult labor. Brain hemorrhage.	Complications of labor.	
100	Mrs. B.	C.	21024	32	1	4 plus	Stillbirth. Meningeal hemorrhage.	Syphilis.	
101	Mrs. J.	C.	21048	28	4	4 plus	Stillbirth.	Syphilis and toxemia.	Patient had eclampsia.
102	Mrs. W.	C.	21230	32	4	4 plus	Stillbirth.	Syphilis.	
103	Mrs. B.	W.	21340	22	1	None	Stillbirth. Full term.	Cause unknown.	Patient had had no miscarriages.
104	Mrs. S.	C.	21548	22	1	None	Stillbirth. Breech presentation.	Complications of labor.	
105	Mrs. H.	C.	21942	23	1	None	Stillbirth. Dystocia. Extreme molding of head.	Complications of labor.	
106	Mrs. H.	W.	23422	37	5	None	Stillbirth. Dystocia. Excessive molding of head.	Complications of labor.	Patient had had one miscarriage and one craniotomy.
107	Mrs. L.	W.	23624	22	4	None	Stillbirth. Craniotomy. Flat pelvis.	Complications of labor.	Patient had three miscarriages.
108	Mrs. B.	W.	23695	22	1	None	Stillbirth. Craniotomy.	Complications of labor.	
109	Mrs. D.	W.	23931	24	1	4 plus	Stillbirth.	Syphilis.	Patient had had one miscarriage.

CAUSATION OF STILLBIRTHS AT UNIV. OF NEBR. COLLEGE OF MEDICINE—UNIV. HOSPITAL

NO.	NAME	COLOR	HOSP. NO.	AGE	Grav.	WASSERMANN	LABOR RECORD AND CLINICAL FINDINGS	CAUSE OF PREMATURITY OR DEATH	OTHER FINDINGS
110	Mrs. G.	W.	24032	37	8	Neg.	Stillbirth. 29 wks. pregnant. Macerated fetus. Vorbees bag inserted. Podalio version.	Placental State, Abruptio-placenta. Patient came into hospital complaining of hemorrhage and fainting.	Patient had 6 children, living and well. Had 1 miscarriage.
111	Mrs. McC.	W.	23735	32	3	None	Stillbirth. Macerated fetus. Full term.	Cause unknown.	3 children, living and well. 2nd pregnancy twins. No miscarriages.
112	Mrs. T.	W.	23718	34	2	None	Stillbirth. 9 mo. macerated fetus.	Cause unknown.	Patient toxic with 1st pregnancy. Instrumental delivery. Child living and well.
113	Mrs. H. C.	W.	1796	19	1	1 plus	Stillbirth.	Cause unknown.	Normal delivery.
114	Mrs. A. A.	W.	1659	25	2	1 plus	Caesarian section.	Complications of labor.	
115	Mrs. L. W.	B.	2680	21	1	4 plus	Caesarian section.	Syphilis. Complications of labor.	
116	Mrs. I. H.	B.	301	20	1	3 plus	Breech delivery.	Complications of labor. Syphilis.	
117	Mrs. A. W.	B.	1833	16	1	1 plus	Dystocia. Justo-minor pelvis. Stillbirth.	Complications of labor.	
118	Mrs. W. E.	W.	2256	21	1	2 plus	6 mo. stillbirth.	Syphilis.	Patient had had no miscarriages. Husband was a syphilitic. Patient had nodular type of syphilis. Had received 4 salvarsans and K. I. treatments.

In the 14 patients having 3 plus Wassermann, we founds 2 instances of stillbirths or miscarriages in 2 patients in the present and past record of this group. (14%).

In the 33 patients having a 2 plus Wassermann, there occurred 10 stillbirths or miscarriages (33%) in 10 patients.

In the 34 patients having 1 plus Wassermann, there occurred 7 stillbirths or miscarriages (20%) in 6 patients.

In a series of 6,954 pregnant women, mostly white, 6% or 424 patients had positive Wassermann reactions, as reported by Stillians(3) from the Serological Laboratory of the Chicago Lying-In Hospital. He remarks that the Wassermann reaction has almost the same diagnostic value in the pregnant as in the non-pregnant woman. The false positive reaction occurred in not more than 2.5% of the positive cases in this series; in all probability, much less frequent. False negative reactions, both complement-binding and flocculation, or Kahn test, often occur in pregnancy. The flocculation tests are valuable aids in a diagnosis of syphilis in pregnancy. Since the early days of Wassermann reaction, the possibility of false positive results has been recognized as of utmost importance. False positive reactions are possible in any serological laboratory, but they occur rarely, Stillians believes, in those using the Kolmer technique, it is reasonable to expect them more frequently in the serum from the pregnant woman than in other serums.

In support of the opinion that a positive Wassermann reaction in the pregnant woman means syphilis almost as surely as in the non-pregnant woman, the serologic tests at the Chicago Lying-In Hospital have been summarized for the period since the adoption of the Kolmer technique. This modification of the original Wassermann technique has given clean-cut results and steadiness of strength combined, Stillians believes, with sensitiveness and great reliability.

The Wassermann reaction in patients having undoubted syphilis often becomes negative for a time after childbirth. This phenomenon, first reported by Menten, undoubtedly is responsible for much of the confusion regarding the serology of pregnancy. In Stillians' lists of fifty-two tests made postpartum in patients whose serum had been positive during pregnancy, forty-one were also positive after parturition and eleven were negative. Of the latter, the diagnosis of syphilis was confirmed in seven by active lesions in mother or child, by persistent positive serum tests in the child, positive tests in the husband or other children, or by persistent positive tests in the mother between pregnancies; of the other four cases, three are already on the list as confirmed by multiple positive tests during pregnancy, and the fourth showed a positive test in the period before the Kolmer technique was used. Thus, doubt was not cast on the diagnosis by the Menten phenomenon in any case in this series. The flocculation tests did not show any such tendency to become negative post partum, just as they may remain positive long after the Wassermann reaction is made negative by treatment.

Women infected with syphilis develop resistance better than men; the manifestations are fewer and milder, and in them the disease becomes latent earlier. Pregnancy accentuates this tendency and is in itself a treatment of syphilis(5), so much so that it reduces the danger of syphilis of the central nervous system(6). Thus, the probability that syphilis will be revealed by clinical evidence is considerably less in the woman who has gone through pregnancy than in other women. Serologic evidence is therefore correspondingly more important.

In our series of 52 abortions and stillbirths occurring in the 51 patients with a four plus Wassermann, it is interesting to call your attention to the hypothesis of Rietschel. He assumes that the endometrium is rendered more susceptible to infection by the spironema at the time the ovum ripens, and that the resulting infection is a localized one, affecting the wall of the uterus only. This would account for the abortions and early miscarriages which so commonly occur in syphilitic families. With repeated pregnancies the uterine disease becomes increasingly latent, so that eventually a syphilitic child is born.

There are three views as to how syphilis is transmitted to the offspring(7). First, most authorities in the 16th and 17th centuries hold that the infection is transmitted directly from the father to the child. This view doubtless owes its origin in great measure to the fact that the mothers of syphilitic children rarely present symptoms or signs of syphilis and in the majority of cases give no history of the disease. Such mothers might conceivably have acquired an immunity through having harbored a syphilitic fetus, as Fournier and others of the older authors held, or they might actually have syphilis—but in a latent form—as Hutchinson suggested, and as most authorities believe today. This is the so-called germinative mode of transmission, which is believed to be the most likely one, or at least a possible or probable one, by Kassowitz, Baumgarten, Neisser, and other syphilologists. Another possible mode of transmission, and that which most, but not all, recent authorities agree is the usual one, is the placental. With this mode of infection of the fetus it would follow that the mother of a syphilitic child must herself always be syphilitic. It is theoretically possible for the first infected child to be an instance of paternal infection, and that the mother is infected via the child. In subsequent pregnancies the child would be infected through the mother, and these would be instances of maternal syphilis, and the children the offspring of two syphilitic parents. Such a syphilitic mother could, however, give birth to a syphilitic child by a second syphilis-free husband. There is the third possibility that a mother becomes infected during the course of the pregnancy and infects the fetus during gestation or at the time of parturition.

Gammeltoft(17) subscribes in all essentials to the views Matzebauer has expressed in the handbook by Seitz and Halban, Biologie und Pathologie des Weibes. Gammeltoft's material comprising 1290 syphilitic women delivered in the Lying-In Hospital of the University Clinic of Copenhagen from 1912-1926, has fully confirmed the view, that the maternal transplacentary transmission is the only way of transmission or practically the only way of any importance. Those instances of congenital syphilis in which the mother did not subsequently prove to be syphilitic, are too rare to alter their views on this point.

RECORDED CAUSES OF STILLBIRTHS

To get some conception of the role syphilis plays in the causation of stillbirths, a tabulated list is given by Nathan and Drolet(8) of the causes of all stillbirths occurring in the Bellevue-Yorkville district of New York City in 1926. There were 14 or 2.8% of stillbirths in a series of 500 due to syphilis. Other causes:

Asphyxia (cause not stated), 15%
Prematurity, 14%
Disease of the placenta and membranes, 8%
Difficult labor, 7%
Prolapse and compression of cord, 6.8%
Toxemia and nephritis, 6.7%
Death in utero, 6.7%
Malformation, 3%
Syphilis, 2.8%

In Polak & Beres(9) series of 37 cases of stillbirths in the Long Island College Hospital Maternity Service in 1926, complications of labor stand out as the most important single cause of fetal death (30%); syphilis comes next with 28%; antepartum hemorrhages third with 10%; toxemia fourth with 7.7%.

In Williams(10) cases for whites and blacks in his 1915 series of 700 fetal deaths, syphilis heads the list with 26.4%.

PERCENTAGES OF DEATH (WILLIAMS, 1915)

	CAUSE	PERCENTAGE
1.	Syphilis	26.4
2.	Dystocia	17.6
3.	Various	11.2
4.	Prematurity	7.1
5.	Toxemia	6.5
6.	Deformity	3.4
7.	Inanition	3.3
8.	Antepartum hemorrhage	4.9
9.	Other causes	1.6
10.	Cause unknown	18.0

In a later study, Williams(11) analyzes the significance of syphilis as a cause of fetal death in greater detail. The following table is a summary of his 302 cases.

PERCENTAGES OF DEATH (WILLIAMS, 1915)

	CAUSE	PERCENTAGE
1.	Syphilis	34.44
2.	Dystocia	15.20
3.	Toxemia	11.55
4.	Prematurity	10.59
5.	Antepartum hemorrhage	13.89
6.	Deformity	3.64
7.	11 other causes	10.69
8.	Cause unknown	8.61

Analyzing these figures according to whites and blacks, Williams found that syphilis was the cause of death in 12.12% of the white cases, and 45.23% of the black. The incidence of syphilis among the whites was 2.48% and among the blacks 16.29%.

A fetal death can be ascribed to syphilis with certainty only if the Spirochaeta pallida are found in the tissues of the infant. Since the organism was not sought for in many of these series, certainty is not warranted. Death was ascribed to probable syphilis when the mother had a positive Wassermann with the history of repeated miscarriages. The significance of syphilis is interpreted variously. Thus Holland and the English workers think that syphilis as a cause of fetal death has been over-emphasized, while Williams of John Hopkins finds it of paramount importance.

See the following chart:

PERCENTAGES OF DEATH BY CAUSES

			Holland and Lane-Claypon (11)					Williams		(14)	(15)	
	Polak & Beres	Holland	London	Glasgow	Liverpool	Edinburgh	Cardiff	(Whites only)	(13) Holt	McQuarrie	Thomson	Sage
Complications of labor	30.7	28.3	34.8	40.2	31.2	37.2	30.2	22.4	31.1	37.1	23	19.9
Antepartum hemorrhages	10.3	22.3	21.7	30.7	14.3	10.5	17.0	9.9	7.4	2.0	6	0
Toxemia	7.7	8.6	12.7	10.7	7.7	10.2	20.1	11.7	9.9	9.2	6	9.3
Syphilis	28.1	15.3	7.7	7.0	8.6	11.1	8.5	12.8	8.3	15.5	15	23.8
Maternal Diseases	2.6	8.6	5.9	2.5	2.0	1.5	0.8	17.2		5.2	12	9.3
Placental States	2.6		0.9	0.0	2.0	1.7	1.5		23.8		6	5.2
Fetal States	7.7	5.6	5.0	5.4	23.6	7.2	10.8	6.6	3.0	8.2	23	4.2
Prematurity	9.0	0.3	0.0	0.3	2.0	10.4	3.1	5.2	2.8	5.3	6	4.1
Cause Unknown	10.3	10.7	11.3	3.2	8.6	10.2	8.0	14.3	13.7	17.5	5	17.5

The importance of the antenatal care in syphilis becomes evident from the anaylsis by Ballantyne(16) in England and Williams(10) in America. The former found that among 138 syphilitic mothers who were treated there were 7 stillbirths, a death rate of 50.7 per 1000, while among 33 syphilitic mothers not treated there were 20 stillbirths, a rate of 606 per 1000. Williams studied 421 cases with a positive Wassermann reaction; of these, 157 received no treatment, with the result that 52 per cent of the offspring were stillborn or syphilitic; 103 received inadequate treatment (2 or 3 injections) with 37 per cent dead or defective offspring; 163 received full treatment (4 to 6 injections) with 7.4 per cent of fetal syphilis.

With this evidence we close our discussion of syphilis as a cause of fetal death.

We analyzed the causes of death in 118 cases of stillbirths which occurred in the University of Nebraska College of Medicine and found the following:

PERCENTAGES OF DEATH

	CAUSE	PERCENTAGE
1.	Syphilis	23.8
2.	Complications of labor (Breech, Caesarian) (Podalic versions)	19.9
3.	Cause unknown	17.5
4.	Toxemias of Pregnancy	9.3
5.	Maternal Diseases	9.3
6.	Deformities of Foetus	6.7
7.	Placental States (infarcts, placenta praevia, abruptio placenta)	5.2
8.	Foetal States (Prolapsed cord—cord around neck)	4.2
9.	Prematurity	4.1

CONCLUSIONS

1. In this community special efforts are being made to diagnose and treat syphilis in pregnant women. Adequate records are kept.

2. The incidence of syphilis in obstetrical patients at the University of Nebraska College of Medicine is 5.5%; a few per cent lower than the average of 8.3% as reported by the subcommittee of the Medical Women's National Association, comprising figures from 15 clinics who were able to furnish statistics on syphilis in 6,300 patients.

3. Our Clinic furnishes figures on the number of stillbirths and miscarriages.

a. In one series of 51 patients having a 4 plus Wassermann, there were 52 stillbirths and miscarriages in the histories of 16 patients in this group.

b. In the 14 patients having a 3 plus Wassermann, we found two instances of stillbirths or miscarriages in 2 patients, in the present and past record of this group.

c. In the 33 patients having a 2 plus Wassermann, there occurred 10 stillbirths or miscarriages in 10 patients.

d. In the 34 patients having a 1 plus Wassermann, there occurred 7 stillbirths or miscarriages in 6 patients.

4. We feel that a history of repeated stillbirths, abortions, or neonatal deaths without obvious causes to account for them are indicatives of syphilis.

5. In 118 stillbirths at the University Hospital, syphilis was the probable cause in 23.8% of the cases, and this cause of stillbirths headed the list. Death was ascribed to probable syphilis when the mother had a 3 or 4 plus Wassermann, with the history of repeated miscarriages.

6. We treat our cases of syphilis in pregnant women as soon as the diagnosis is made because we feel that the treatment has two inter-related objects in view:

a. To prevent the child from dying before birth or being born a congenital syphilitic with a small chance of survival.

b. To cure the mother herself.

Experience has shown that pregnancy is a peculiarly favorable period for the treatment of maternal syphilis, as the disease tends to become latent in the woman at this time, and can more easily be cured or controlled than at any other time.

7. We recommend a Wassermann test on every pregnant woman.

8. We feel that every syphilitic woman should be treated during pregnancy with salvarsan and mercury or bismuth, without any regard to the date of the initial infection, with no regard to a previous intensive treatment, and finally, without any regard to a negative Wassermann reaction.

9. Particular stress should be laid on the combined mercury-salvarsan treatment in the middle of pregnancy because, according to Thomsen's investigations, the spirochetes are particularly liable to invade the fetus at this time.

Note—Appreciation is expressed to the following students at the University of Nebraska College of Medicine for the compilation of this report: C. G. Stillinger, R. H. Rasgorshek, Robt. J. Mocs, C. L. Smith.

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SARCOMA AND ELEPHANTIASIS

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Sarcoma associated with elephantiasis is an unique condition in medical literature. A review of literature has failed to reveal a similar condition and it is for this reason that I wish to report the following case in detail.

The patient, a male aged 29, by occupation a printer, was first seen Sept. 2, 1918, complaining of "Big Leg." He gave the following history. Typhoid fever at 10. Prior to the age of 20 years, he had suffered from repeated attacks of tonsillitis. Six years ago he suffered from an infection about two teeth of the lower right jaw which caused sufficient swelling to close the right eye. Following this one tooth was extracted, at the roots of which were several drops of pus. His teeth had caused him considerable trouble during the past four years.

Three years ago last April, in a motorcycle accident he injured the left ankle. Recovery was complete in four weeks. The following September (1915) he fell from a hay stack alighting on the left foot and again injuring the ankle from which time he dates the present illness.

Immediately following the accident the left ankle started to swell. He remained off his feet for two weeks because of the swelling. No pain was present at that time in the ankle nor has there been pain in the ankle or leg at any time. The swelling progressed gradually and extended above the knee eleven months ago or twenty-five months after the accident. The right leg started to swell about one year ago and the swelling has never extended above the knee.

Examination revealed a fairly well nourished man with a rather muddy complexion. Mouth contained several bad teeth and stumps and a marked pyorrhea alveolaris. Tonsils were hypertrophied.

Small firm cervical glands in the anterior triangle. No enlargement of the right axillary or epitrochlear glands. Left epitrochlear and axillary glands enlarged. Left inguinal glands small and firm. Right inguinal markedly enlarged.

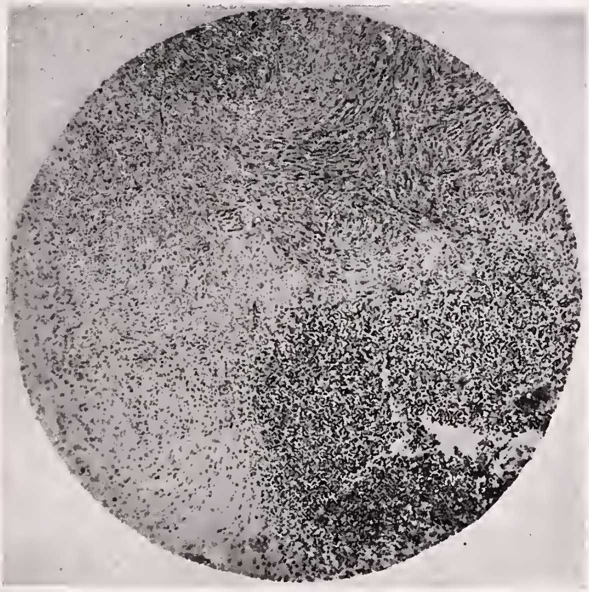
Thoracic and abdominal viscera normal. Genitalia and urine normal. Rectal examination negative. Reflexes normal. Wassermann negative.

The left leg was markedly enlarged from the ankle to the groin. The right enlarged from the ankle to the knee. The swelling consisted of a firm uniform white edema which pitted on firm pressure. No visible venous enlargement nor painful areas. The patient was placed under observation and the following noted:

Oct. 13th, there developed a large tender mass in the left groin which persisted for three days and then receded slightly in size and pain disappeared. Patient noted that when he remained off his feet that the leg became smaller and inguinal glands larger. The leg gradually increased in size.

On Jan. 22, 1919, I performed a bi-lateral Kondoleon operation upon the left leg and thigh from which the patient recovered promptly.

Bacteriological examination of the serum obtained from the tissue removed showed an occasional colony of staphylococci which was considered a contamination. Examination of pus obtained from an upper bicuspid tooth revealed colonies of pneumococci and bacilli of diphtheroid nature and staphylococci. Five cc of saline emulsion of bacteria obtained from both cultures were injected into a dog intra-peritoneally and at the end of six weeks the femoral veins dissected out. However, no pathological changes were noted.



Measurements of the left leg:

	Before Operation	After Operation
Ankle	17 in.	12¼ in.
Calf	24 in.	19 in.
Knee	22 in.	16 in.
Mid thigh	24½ in.	20¼ in.
Top thigh	22 in.	21 in.

Later the tonsils were removed and cultured. A few strands of streptococci and gram positive staphylococci found.

Following the operation the patient returned to work with a useful leg. There was some return of the edema but not enough to interfer with his activities.

The patient was again seen about May 15, 1926 and gave the following history: On April 23 last, he bumped his left leg against a linotype machine and suffered more or less from pain since that date.

Examination of the leg revealed two superficial bluish areas the size of a quarter which were rather tender. No underlying induration was noted. The leg and thigh were moderately edematous. Skin apparently healthy. Moist heat applications advised. Seen again July 10th at which time the above mentioned areas were of a brownish color and still painful. As I was leaving in a few days for my vacation I referred him to a dermatologist who treated the leg with x-ray. The patient of his own volition consulted two more physicians and was referred back to me September 30th.

At this time there were two black ulcers the size of a half dollar on the anterior surface of the leg in a gangrenous area which involved about one-third the circumference and extended about six inches between the ankle and knee. Along the internal scar of the Kondoleon operation were a number of small hard nodules. An area of light brownish discoloration was noted on the lateral aspect of the thigh. Many small pink areas were scattered over the leg. No apparent involvement of the inguinal or pelvic glands. X-ray of the bone was negative. W. B. C. 16000. Clinical Diagnosis, Sarcoma and Gangrene of the leg and thigh.

Oct. 4, 1926. The leg was amputated in the upper third with resection of the old scar. The postoperative sequelae are interesting. The day following the operation the scrotum became edematous which gradually became gangrenous necessitating the removal of about one-half of the scrotum. Testicles not involved. There developed numerous transverse linear ulcers on the tongue. Then a subgluteal abscess on the right side developed followed by two attacks of erysipelas on the right leg. The stump, of course, became infected and drained for several months. Patient left the hospital Nov. 7, 1926.

PATHOLOGICAL REPORT OF TISSUE

(Nebraska Laboratory)

Situated immediately beneath the skin was a nodular mass formed of irregularly shaped cells. The majority of them were ovoid and round, all with conspicuously irregular nuclei, many of which showed mitotic division, in some cases of very irregular character. The mass was not circumscribed, the cells at its margin infiltrating the surrounding structures. Throughout, the tumor mass was greatly distorted with yellowish brown pigment, but as nearly as could be ascertained, this pigment was not intrinsic in the tumor cells but was everywhere more or less composed of decomposed red cells, in large part in the very numerous vessels with rudimentary walls, which everywhere penetrated the tumor as haemorrhagic blood.

DIAGNOSIS—MIXED CELL SARCOMA

One month following exit from the hospital the patient developed a firm tender mass in the region of the femoral glands, also several subcutaneous nodules of a bluish black color; one below Poupart's ligament, one above, one in the left lumbar region and one midway between the umbilicus and pubis. These metastatic nodules were tender during the process of formation which occupied several days. They were freely movable over the underlying tissue but attached to the skin.

March 28, 1927. Under local anaesthesia and with cautery these nodules were removed for examination.

PATHOLOGICAL REPORT

The subcutaneous tumors showed a somewhat different picture. They consisted of densely massed cells of irregular morphology, some very large and spherical, some ovoid and many polyhedral. The nuclei were irregular and showed frequent evidence of division, apparently principally amitotic. From the larger masses of these cells, there was some diffuse infiltration into what had aparently been the preexisting tissues. Throughout the blood vessels were poorly formed and there was much haemorrhage.

DIAGNOSIS

Mixed cell sarcoma, apparently originating from fibro-sarcoma. The patient gradually became weaker, developed a cough and dyspnoea. Thoracic metastasis was demonstrated by x-ray. Temporary relief was secured by thoracic aspiration of four pints of bloody fluid. The patient died July 1, 1927. Resume of Necropsy Findings. Dr. A. J. Miller, Uni. of Nebr.

GROSS FINDINGS

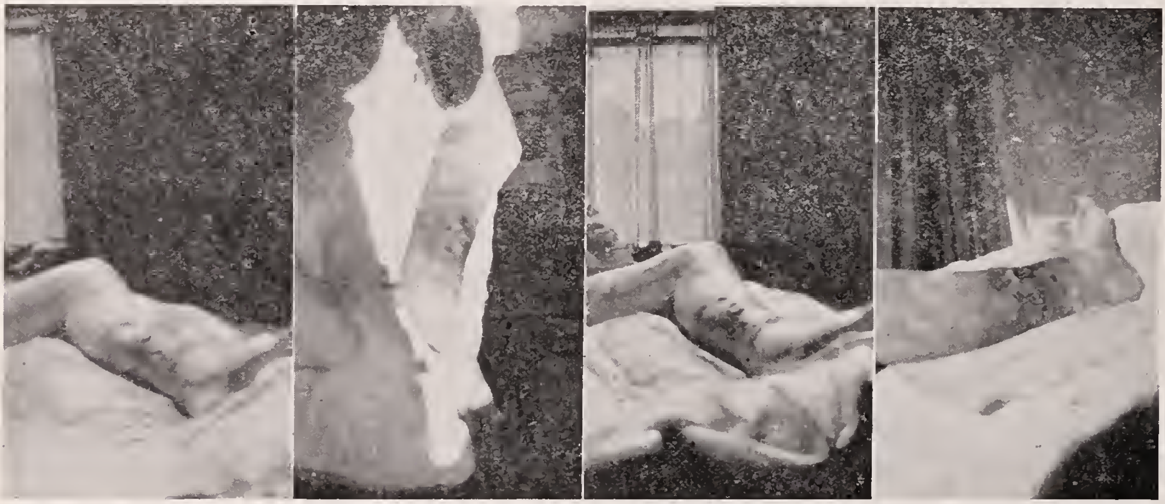
1. Hemorrhage in the peritonal cavity.
2. Hemorrhage in both pleural cavities.
3. Tumor metastasis in the lungs, mesentery, intestine, omentum, pericardium and peritoneum.
4. Surgical amputation of left lower limb.
5. Edema right lower.

MICROSCOPIC FINDINGS

1. Fibrosarcoma metastatic to lungs, pleura, peritoneum, intestines and omentum.
2. Hemorrhage into mucosa of the alimentary tract.

SUMMARY

According to the histology it could have arisen from connective tissue such as fascia or any of the tissues closely related to it embryologically. The tumor tissue is very poorly preserved and no doubt its destruction resulted in a good deal of toxicity. The immediate cause of death is hemorrhage into the serous cavities and alimentary tract.



COMMENT

This patient had never been in the south so filaria as a causative etiological factor of the elephantiasis may be eliminated.

The accompanying bibliography refers to case reports of three cases of carcinoma associated with elephantiasis.

A personal letter from Dr. Joseph C. Bloodgood of Baltimore says: "I have never known of a case of sarcoma in elephantiasis."

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SHALL THE GOVERNMENT BE A POLICEMAN OR A DOCTOR?*

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Public Health is our actual National Defense problem. Public Health Service is the art and science of preserving and promoting the public health. The cell is the unit of individual health. What the cell is to the individual body, the indivual body is to society.

Just as cells have the properties of reproduction, development and function and the disturbance of these properties is manifested by discord in the relationship of the cells called disease, so too the physical and mental discord of individuals produces disease of society. The problem of health is disease and a discussion of health automatically includes disease. Disease is the greatest foe of civilization. Some causes are older than man, having been present before the Paleozoic Era, rife in the Eocene epoch and are still present.

Organized government is a product of man, and, man has been and is the greatest problem of government. A government in which all individuals are working in harmony with their environment is one in which all individuals are in perfect health. This utopia is beyond the most fantastic dreams of idealism but nevertheless is worthy of an effort to approach, even though never reached. How to advance toward this goal of perfection is the purpose of Public Health Service.

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*Read before graduating class, Creighton University College of Medicine, May 14, 1928.

Public Health takes precedence over all other functions of government. This is legally recognized in "police power," an arm of government that has been recognized in Public Health administration for centuries. The Hebrews took an advanced step in the matter of governmental supervision of Public Health. They created the first official day of rest and prescribed rules and regulations governing food, water and social customs. The priests functioned to a large degree as health police and were given considerable power and authority. Health rules and regulations existed before this period but for all practical purposes the Hebrews were the beginning of governmental authority in health measures and from this time public health as a governmental function may be traced.

It is of interest to note some examples of city ordinances and hygienic manifestos which reflect the public consciousness of the middle ages. The Santo Spirito Hospital was opened in Rome in 1214. A city physician with a fixed salary was appointed for the city of Bologna in 1214. Frederick the II issued an edict regulating the practice of medicine in 1224, creating a medical school at Salerno 1231, and issued an ordinance against pollution of the atmosphere, adulteration of foods and drugs, sale of poisons and watering of wine in 1231. The city of Basel specified eight contagious diseases by ordinance in 1350. The city of Cologne passed an ordinance confining the slaughtering of animals to the city abattoir in 1374. The Venetian Republic prohibited shore leave to passengers and sailors of infected or suspected ships in 1374. The Parliament of Cambridge issued an ordinance and regulation on soil pollution as a cause of disease in 1388. Ulm passed an ordinance against smoky chimneys in 1427. An ordinance of Ratisborn 1452 regulated midwifery. An ordinance prohibiting manure and disposal of sewage in the streets and requiring lanterns at corners was created 1464-1475. (Tucher). An endless number of examples might be added, but these are sufficient. It must be kept in mind that these governmental regulations were results; that preceding them was a public consciousness which was the cause of these enactments, and which has always been the predominating factor in the advancement of public health. At periods various agencies have played the major role in the development of this consciousness. No single group of individuals has exceeded the service that has been rendered by the medical profession. Beginning as an individual effort in the time of Hipprocrates the medical profession consistently, valiently and effectively throughout its history has given society unstinting assistance in the elimination of disease. But the medical profession has not been alone in this work, amongst others:

The army through its medical department has advanced sanitation, hygiene, and physical development in a very large measure. The absolutism of military law gives it the character of a benevolent despotism. And a war psychosis at periods, which produces the necessary public consciousness, has enabled the army to present results which could not in the same manner or time have been accomplished by civilian means.

Religion with its moral force has been a powerful agent in the prevention of disease and religious organizations have been pioneers in the treatment of disease.

Education, using the term in its broadest sense, has been and will be the instrument of lasting accomplishment, and the press has played a magnificent and efficient role in the dissemination of educational public health information, without which, little progress could have been made.

As a combined result of all these institutions two classes of health agencies, official and unofficial, have come into the social order for the purpose of promoting some phase of Public Health. By an official agency is meant a governmental agency, Federal, State, County or Municipal which is legally constituted in a given territory. Such agencies derive their authority from legislative sources and authority is delegated in general terms to make rules and regulations which have the force and effect of law. In most instances the details of administration are left undefined by law.

No country in the history of the world has had so many unofficial health agencies as exist in the United States, prominent examples of which are: The American Medical Association and kindred organizations; the American Red Cross and associated agencies; the Rockefeller Foundation; insurance companies; industrial companies; fraternal orders and social organizations. Unofficial agencies are more difficult to define. For example the function of official departments of education, agriculture, child welfare, foods and drugs, include some of the fundamentals of public health work. On the other hand there are a great number of strictly privately supported voluntary agencies committed to some health activity.

The frank unofficial agencies are invariably the creation of an individual or group of individuals and are responsible only to their financial contributors and to public opinion. While the administrative policy of these agencies may not be influenced by the source of the voluntary financial support there is a tendency for this to occur. Public opinion is the greatest stabilizing factor in this class of organizations as well as in the strictly official agency, and public opinion is the result of education. I believe that the greatest benefit derived from these unofficial agencies is the reinforced education. Both official and unofficial agencies are presumably committed to some service for the elimination of disease upon which public health depends.

Disease may be placed in two general classes, heredity and acquired. These may again be divided into; 1st., Diseases that may be cured. 2nd., Diseases that may be modified, limited or arrested, and 3rd., Disease that may be prevented. The diseases that are curable are so few that they do not warrant discussion, and for all practical purposes may be included in the diseases that may be limited, modified, or arrested. In this class, medical service plays a very large role, and the cross currents of individualism, collectivism and economics have made a chaotic condition.

The medical profession has labored traditionally on an individualistic basis, and generally prefers to remain on that basis, and will resist any general movement to socialize medicine. The public is disposed to look favorably upon organized effort, on the assumption, warranted or not, that the service can be supplied at less cost and at taxpayers expense. The expense of medical service cannot be ignored. The cost of treatment of sickness in the United States in 1925 has been closely estimated to have been $1,500,000,000; this is about $12.50 per capita. It is impracticable to estimate the cost of accompanying loss of time and production which should be added to the total cost. The average yearly income of physicians for that year has been closely estimated to have been $3,000. There are approximately 150,000 practicing physicians in the United States, therefore $450,000,000 or 30% was spent for the services of physicians which leaves $1,050,000,000 or 70% consumed in other phases of treatment. The cost of sickness represents a stupendous sum but it must not be charged entirely to the doctor. Public demand, natural and stimulated, has been the large factor in the ever increasing cost of sickness. Proportionately, medical fees have advanced very little. In many fields of medicine there has been no advance in the last 25 years. The service rendered today by the average physician is infinitely superior to the service rendered 25 years ago. The increased cost, in most instances, is in direct proportion to the increased demands for more service. The public wants more and more and the greater the wants the greater the cost. The demands should always be considered in the discussion of the excessive cost of sickness.

For a number of years the trend has been toward some form of collectivism in the medical treatment of disease. This is represented in the following organizations:

Direct National Official Governmental Agencies:

The Army Medical Department.
The Navy Medical Department.
The Bureau of the Public Health Service.
United States Veterans Bureau and Hospital.
United States Veterans Hospitals.

Direct State Official Governmental Agencies:

Hospitals and institutions for the insane, mental defective, blind, deaf, crippled, tuberculosis.
Prisons.
State Medical Schools, Clinics and Hospitals.

Direct County and Municipal Official Agencies:

City and County Hospitals and free Clinics.
Laboratories.
Out patient departments.

Full time County Public Health agents, who are rapidly increasing as shown by the following list of states maintaining these officers:

Alabama	30
Arizona	2
Arkansas	3
California	9
Colorado	1
Florida	3
Georgia	24
Illinois	3
Iowa	1
Kansas	9
Kentucky	9
Louisiana	10
Maryland	6
Massachusetts	1
Minnesota	1
Mississippi	18
Missouri	12
Montana	3
New Mexico	9
New York	1
N. Carolina	37
Ohio	47
Oklahoma	9
Oregon	5
S. Carolina	16
S. Dakota	2
Tennessee	14
Texas	5
Utah	6
Virginia	15
Washington	7
West Virginia	13
Wyoming	1
TOTAL	332

Indirect Official National Governmental Agencies are represented by:

Sheppard Towner Maternity Assistance.
Child Welfare.
Dept. of Agriculture.
Forestry.

Fisheries.
Bureau of Drugs and Foods.
Department of Justice.

Indirect State Official Governmental Agencies:

These are becoming difficult to define within any technical limitations. The trend is toward a greater number of treatment agencies under the Departments of Public Welfare. Very few appreciate the extent of medical activity and the cost of Departments of Public Health of the various states. The amount of money appropriated for Public Health Departments by states and territories for the year of 1926 as given by the Bureau of Public Health, August 27, 1926, Reprint No. 1106, is as follows:

Alabama $205,000, Alaska $14,100, Arizona $40,730, Arkansas $170,640, California $928,150, Colorado $49,500, Connecticut $427,100, Delaware $121,500, District of Columbia $351,350, Florida unknown, Georgia $233,291, Hawaii $2,341,205.92, Idaho $65,645, Illinois $1,138,887, Indiana $176,000, Iowa $78,410, Kansas $51,700, Kentucky $261,877,670, Louisiana $75,000, Maine $117,500, Maryland $325,215, Massachusetts $2,091,450, Michigan $450,250, Minnesota $215,800, Mississippi $134,800, Missouri $291,800, Montana $58,200, Nebraska $64,800, Nevada $8,800, New Hampshire $56,338.61, New Jersey $329,220, New Mexico $24,500, New York $2,193,207.98, North Carolina $400,000, North Dakota $19,875, Ohio $1.142,882, Oklahoma $129,879.48, Oregon $42,500, Pennsylvania $4,870,000, Philippine Islands $1,639,619, Porto Rico $1,398,062.97, Rhode Island $8,800, South Carolina $243,639,24, South Dakota $54,960, Tennessee $247,607,59, Texas $176,091.04, Utah $59,460, Vermont $40,000, Virginia $226,931, Washington $155,000, West Virginia $109,800, Wisconsin $217,820, Wyoming $21,700. A total of $24,294,470.50.

In addition to Public Health Department activity in practically every state there should be added some form of:

Workmen's Compensation.
Departments of Agriculture.
And Public Instruction.

Unofficial Agencies:

It is not practical to attempt to classify the unofficial agencies that individually and collectively treat disease further than to say they may be represented as physicians, dentists, nurses, hospitals, (religious, industrial, commercial, and private) medical clinics, individually owned or incorporated, medical partnerships, and medical groups of physicians.

In many instances, the line of demarkation between treatment of disease and other health efforts and between individualism and collectivism in unofficial and even official agencies is a decidedly blurred line. Individualism and social medicine have combined to produce the result that the rich and extreme poor are the two classes of individuals who obtain modern treatment without financial or social embarrassment. The large group between these two classes, who are neither rich nor extremely poor, are without a doubt meeting an almost prohibitive cost for the treatment of sickness. This economic situation will in my opinion result in some form of collective treatment of all sickness and disease which will be either "governmental medicine" or "health insurance medicine." Frank individualism, whether we like it or not, is rapidly fading from the picture and will not be, in my opinion, the dominant factor in the future.

In 1917 and 1918 as a medical officer I was charged with the duty of examining literally thousands of soldiers who were sent to the mobilization camps. My faith in individualism and a watchful waiting policy of Public Health was considerably shaken. In 1918 out of 10,000,000 males registered between the ages of 21 to 30, 2,510,000 were examined by local boards and 730,000 rejected. After December, 1917, 3,208,446 were examined. Out of these two groups, during a period down to May, 1918, the first million men between the ages of 21 and 30 were sent to the mobilization camps. They had been passed by civilian physicians on the draft boards as physically fit for war service. At the mobilization camps approximately 350,000 of this first 1,000,000 were found to have physical defects, that required treatment before they could be utilized as soldiers, or required that they be placed on limited service duty or discharged. The principal physical defects found at these mobilization camps were: Flat feet 177,450, venereal disease (all) 28,900, throat disease 24,280, potential hernia 20,280, hernia 13,790, defective vision 7,860, disease of the heart 8,510, congenital deformities of feet 7,030, defective and loss of teeth 4,960, pulmonary tuberculosis 4,940, varicocele 3,340, disease of ear 2,600, underweight 2,600, joint deformities 2,600, malunion of fracture 2,020, mental defective 2,450, goiter 2,300, congenital disease of testicles 1,810, skin diseases 1,580, varicose veins 1,440, eye defects 1,420, hemorrhoids 1,030, deficient physical development 800, curvature of spine 750, asthma 630, arthritis 600, psychosis 600, disease of hearing 580, disease of nose 530, trachoma 470, nervous disorders 460, drug addicts 290. Of this first 1,000,000 sent to mobilization camps 10,930 were from Nebraska and of this number approximately 3,700 were found to have physical defects and 3.14% or 343 were discharged, they being of no military value. This lesson of the war should not be forgotten. When we consider the age of these men and assuming that the women of the same period would probably have shown approximately the same number of defects, prudence should cause reflection.

Let us now consider the group in which disease may be prevented. Probably three-fourths of all school children have physical faults which can be corrected and which are preventable. The New York State Department of Health published the following estimate of the physical condition of the twenty-two millions of school children in the United States:

200,000 or 1 per cent are mentally defective.

250,000 over 1 per cent have organic heart disease.

1,000,000 or 5 per cent have now, or have had, tuberculosis.

1,000,000 or 5 per cent have poor hearing.

5,000,000 or 25 per cent have defective eyes.

4,400,000 or 20 per cent are undernourished.

4,400,000 or 20 per cent have diseased tonsils, adenoids, etc.

3,000,000 or 15 per cent have weak feet or spines, or defective joints.

14,000,000 or 7 per cent have defective teeth.

The problem of Public Health is in the prevention of disease. One cannot imagine a single event or ailment in the social order that does not play some part in this problem. The machinery necessary to accomplish results is essentially governmental, because enforcement is only possible by governmental agency. The application of this governmental function must of necessity be somewhat flexible to meet the requirement in geographical areas. In every instance in the past governmental organizations theoretically committed to the prevention of disease have in reality been expanded and diverted to include the treatment of disease. Public health boards presumably for the purpose of social protection, created in many states and cities to an illimitable degree, have invariably sooner or later assumed the function of treatment of disease. It appears to be an American political trait for the government to start as policeman and end as doctor. "Our government is a government of laws and not of men." In the past this has been a fundamental doctrine. In public health matters as well as other governmental functions, we are rapidly becoming a government of Boards and men instead of laws. The doctrine of government of laws tends to prevent injustice, imbalance and arbitrary methods and while irksome to the impatient individual is nevertheless a guarantee of safety for the whole.

There are dangerous pitfalls in some programs for the prevention of disease. For instance it appears that theorists would attempt to regulate the right to be born. National existence and strength undoubtedly depends upon the physical and mental fitness of each succeeding generation which in turn involves conception and birth. God in his infinite wisdom may know who will be fit and who will not be fit before birth, but no human has the power to foretell. Even those chosen mortals, who claim to be fit judges of offspring, are frequently in discord as to the choice of progeny. Admitting for sake of the argument that there is a necessity for some regulatory method, what is to be the standard? Is it to be regulated on a physical, mental, racial, economic, social or religious basis? What shall the method be and how shall it be accomplished? Shall it be a governmental function to regulate marital relations by state, county and municipal contraceptive boards? Shall contraceptive clinics be restricted to state and city health departments, or shall this work be delegated to groups of private contraceptive specialists? Shall contraceptive education be made a course in our public schools and colleges?

Section 211, Federal Criminal code, wisely or unwisely prohibits any information or means of preventing conception. The prohibition is almost limitless in scope. Twenty-two states, including Nebraska, prohibit drugs or instruments for the prevention of conception. Twenty-three states, including Nebraska, (except medical colleges and medical books) make it a crime to publish or advertise contraceptives. Dr. Adolphus Knopf of the American Society for Birth Control of New York and Paris, comments on these legal restrictions as follows: "That it is time that physicians assert their right and duty to practice medicine according to the best of their knowledge and the highest ethical conception, and that our legislatures cease prescribing and proscribing in matters which concern the medical profession alone." This statement reflects too clearly the mental attitude of one track enthusiasts who would simplify complex problems without legal restrictions.

The birth of children to parents who are mentally or physically impaired or who are financially unable to care for them is a basic problem in the prevention of disease and promotion of public health, but it is not a simple one by any means. I mention this subject to show the absolute necessity of governmental function even in an apparently small field of Public Health and to substantiate my own conviction that no fundamental health problem can be safely delegated to a non-governmental, uncontrolled or unregulated group of individuals whose only guide is a philosophy.

I do not want to infer that freedom of speech or freedom of philosophy should be abridged, but in our efforts to eliminate disease, I do want to emphasize that we must keep within the law.

The U. S. Bureau of Public Health is a legalized governmental agency that has been tried, tested and has won distinction and merits the support of every citizen in this country. This institution has blazed the path of National public health sanely, safely and consistently for over a hundred years.

The first National public health service was established by an act of Congress 1798, originally as a Marine Hospital Service, and was placed under the Treasury Department. Since its inception Congress has from time to time, extended its functions, given it greater breadth and authority and today the function of the U. S. Public Health Service as constituted may be summarized as follows:

1. Furnishing medical service to American Seamen and other beneficiaries:

Provision is made for 150 stations for the care of U. S. Seamen in home and foreign ports.

Twenty-five modern completely equipped Marine hospitals are maintained in the U. S. and insular stations. Approximately 300,000 patients are examined and treated annually. In the year of 1926, 1,321,309 patient days were furnished in these hospitals, at an average cost to the government per day per patient of $3.71, which includes all service charges, hospital nursing, physicians, laboratories, etc. In addition to the hospitalized patients 572,139 out patients treatment were administered.

2. Protection of the United States from the introduction of disease from without:

This service is beyond visualization. As an example; in the great epidemic of cholera in 1910 so vigilant was this service that cholera was prevented from reaching the U. S. without interruption of commerce.

In 1926 the Bureau of Public Health service inspected 18,877 vessels, and 1,811,246 persons at Continental maritime stations, At foreign and insular stations 9,741 vessels and 1,321,699 persons destined for our ports were inspected. 5349 vessels were fumigated at domestic ports and 2549 at foreign or insular stations. At the border 75,236 travelers were inspected, exclusive of local interurban traffic.

3. Prevention of the interstate spread of disease and suppression of epidemics:

The eradication of small pox in the Philippine Islands.

Supervision and control of cholera in the Philippine Islands. The control of bubonic plague on the Pacific Coast, New Orleans and Porto Rica by the destruction of rats and ground squirrels, are examples of this service.

4. Cooperation with States and local boards of health in health matters:

During the World War a silent role was played in the protection of the health of the military forces, in the areas contiguous to the camps. Practically every state and many cities are affiliated with the U. S. Public Health service in some measure.

5. Investigation of disease of man:

The Public Health Service has played a large role in the prevention of Yellow Fever, Cholera, Pellegra, Beriberi, Leprosy, Malaria, Diphtheria, Trachoma, Typhus Fever, Typhoid Fever, Deer Fly Fever, Ground Squirrel Plague, Rocky Mountain Fever and Hookworm Disease. The extent of its service in industry, mining, land and maritime commerce, schools, child and maternal hygiene, rural sanitation and the protection of streams, is so voluminous that each activity warrants a discussion alone.

6. Supervision and control of biological products:

Under Federal Law the manufacture of some 104 different biological products serums, vaccines and intravenous drugs, are directly supervised and tested by this bureau.

7. Public Health education and dissemination of health information;

8. Sanitary reports of health and disease, and health research:

This short sketch of the activities of the U. S. Public Health Service does not begin to tell the story. It does however give an outline of its functions and should be an incentive to want to know more about it.

The results achieved by the bureau of United States Public health prompted many thinking men to evolve some plan whereby the same stamp of civilian public health officers might be produced. As a result of the constant demand for scientific well educated and trained officers, the Rockefeller Foundation worked out a plan with the Johns Hopkins University and Harvard University to have incorporated in the course of instruction at these institutions a non-medical course for the advancement of knowledge and training of investigators, teachers, officials and other workers in the field of hygiene, sanitation and public health. This course of instruction embraces bacteriology, immunology, sanitary engineering, chemical hygiene, protozoology, helminthology, medical entomology, filterable viruses, physiological hygiene, biometry, vital statistics, epidemiology, public health administration, mental hygiene, and sanitary law. The degrees conferred are Doctor of Public Health, Doctor of Science in Hygiene, Bachelor of Science of Hygiene, Certificate in Public Health. These graduates are thoroughly trained scientific men, with a cultural background. Graduates are in demand throughout the world and industry, states, counties and cities, are now employing these broad-gauged, non-sectarian, non-medical, non-political public health officers as directors of health departments.

I have endeavored to present some of the salient phases of the problem of public health; to briefly outline the subject, and show in a casual way at least, some of the methods that have been employed in an effort to solve this problem and to show the transition of individualism, to a modified individualism, and a modified individualism to a form of collectivism. I have tried to bring out, that the educational and social protection concept of the governmental public health function has been superseded to a large degree by the additional concept of medical treatment.

I have attempted to inject the question of a government policy, that is: Shall governmental function be educational and regulatory and confined to a solution of preventing diseases and allow non governmental groups to continue to predominate in the treatment of diseases, except in special governmental organizations such as the Army, Navy, Public Health Service and Veterans' Bureau? Or, keeping in mind the paternalism that must ensue, and ultimately the yearly expenditure of $1,500,000,000 or more for private physicians, nurses, hospitals, medicines and appliances to be added to the present taxes, shall governmental function be still further extended to include in addition to the prevention of disease and social protection the treatment of the diseases that may be cured, benefited, modified, or arrested? If this is to be the policy, how shall this be accomplished? If governmental function is to be extended to the treatment of disease, shall the policy be on a medical superiority basis, an economic basis or a sociologic basis? If on an economic basis, shall it be for competitive or regulatory purposes?

The results that have been achieved in the past have been the outcome of a public consciousness and this consciousness represents accumulative education. Step by step, throughout our National existence, and in keeping with National traditions, our government has met and fulfilled its duty in direct proportion to the demands of this public consciousness, whether sound or unsound. Shall stress in the future be the development of individual consciousness, self reliance and governmental protection by education? Or shall the paternalistic policy which has been insidiously inaugurated be still further promoted?

These are issues which involve the medical profession, and which you as recruits, who are to assume command as the older physicians fade out, must meet in the near future. The more prayerful and careful consideration given to them the greater the probability of a wise solution.

PRACTICAL SURGERY (CONTINUED)

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TETANUS

Although any type of wound may be subject to infection of anaerobic bacteria, certain types are more liable than others because they more easily admit of retention of the infective agents.

Deeply penetrating wounds with relatively small wounds of entrance with perhaps the retention of a foreign body, and more or less extensive wounds with devitalizing of tissues are the ones which favor the kinds of anaerobic bacteria infection which give us the most anxiety.

I more particularly refer to the tetanus bacillus, than to the gas bacillus, which we have already discussed.

Tetanus (lock-jaw) is a disease due to a specific wound infection of the *Bacillus Tetani* which is characterized by a toxaemia producing, painful tonic contraction of muscles of voluntary motion, beginning with those of the jaw and neck and spreading to those of the trunk and extremities. The bacilli grow best at the temperature of the body. Below 56 degrees F, they cease to grow. The spores seem to live indefinitely but are killed at a moist temperature of 212 degrees F. They are not killed in 5% carbolic acid solution, for ten to fifteen hours.

The period of incubation of infection varies from a few hours to many days—maybe weeks; this is explained as depending upon the miscibility of the tissues with the bacilli so as to produce the toxins whose action upon the spinal cord brings about the peculiar muscular spasms.

Tetanus may follow wounds of one part of the body as well as another. The feet are most often subject to punctured wounds and likely to be infected by the tetanus bacillus. As indicated above, punctured and lacerated wounds possibly leaving foreign bodies, and those likely of contamination with street dirt, garden soil, and manure—for example, splinters from boards on old fences, or those lying on the ground; old rusty nails; parts of Fourth of July explosives set off in public streets or in the home yard. The bacilli are slender and straight. of slight motility, and present on one end a pin-headed extremity. This enlarged end is the spore or offspring of the bacillus. Nicolaier, in 1884, was the first to discover the bacillus, and Kitasato, the distinguished Japanese bacteriologist, succeeded in 1889, in making the first pure cultures. The germ being anaerobic in character, cannot live in the presence of oxygen.

The organism is not uncommonly to be found in earth which has had animal fertilization—about barnyards and along country roads traveled by livestock. The germ is found in the intestines of many herbivorous animals, and also in the intestines of man, particularly those of farmers and dairy men.

Tetanus in the recently delivered woman—an occasional occurrence—happens through some kind of digital or instrumental infection of the cervix, or the contamination of a tear of the perineum. A decomposed, retained foetus has also been considered a cause of infection. Tetanus occasionally but very rarely nowadays, develops in the new-born infant, the infection occurring through the umbilical cord. However, even today it is more than uncommon among natives in tropical climates where medical attention is wanting. Epidemics occur there as in a modified degree puerperal infection, in times happily gone by, followed from one patient to another in the practice of certain physicians, midwives, and old-fashioned nurses—all ignorant of the germ theory of disease.

Clinical History: This disease may be ushered in in an acute form or the symptoms may be comparatively mild. The acute form develops within a few hours to several weeks after infection. Usually three to seven days elapse between the time of infection and the first symptoms. The patient then notices a difficulty in opening the mouth, with more or less cramping in the muscles of mastication. There may be a general malaise with disarrangement of habitual functions. The neck may be a little stiff and the patient may attribute the dificulty to "taking cold". If suspicion is aroused and a wound area examined, the muscles in the immediate neighborhood show an irritability or tendency to spasm, even irregular tonic contraction. The patient forgetting some insignificant prick, puncture or wound, the physician may at first, in getting the history, be deceived as to the nature of the affection. Inflammatory conditions about the mouth or temporo-maxillary joint may be thought of, even strychnine poisoning. In a few hours the symptoms are aggravated and the cramping of the muscles of mastication becomes so severe that the patient cannot open the jaw, or can at best only slightly separate the teeth (lock-jaw). The muscular contractions are painful, usually excrutiatingly so, and fluids are swallowed with great difficulty. The muscles of the face and back of the neck soon become involved, causing a peculiar expression called *risus sardonicus*. Sometimes before the face muscles are involved, those of the trunk and extremities exhibit spasmodic contractions with cramping pains. The muscular contractions soon become almost continuous; swallowing is painful and difficult, and often brings on fresh muscular spasms, in fact any stimulus, as a sudden noise, a cold draft, or any irritant or voluntary effort, may do this. The back muscles may contract so as to produce opisthotonus. Lateral and forward contortions are sometimes observed. Except during unusual muscular contractions, the patient lies on his side with his head drawn back and the spinal arch exaggerated. There is perfect consciousness. There is retention of urine and the bowels refuse to act because of the contraction of the sphincters. The urine is albuminous. Most commonly there is fever from the beginning which may be quite high. More rarely there is no fever, but usually the fever of itself is not alarming.

Diaphoresis is a feature of the disease and occurs always after severe convulsions. There is little sleep without drugs. Attempts at swallowing may bring on a renewal of convulsions; the face may become cyanotic because of the spasm preventing respiration or causing a closure of the glottis. In the intervals of spasms, the face is anxious and pale. Death is generally the result of exhaustion or spasm of the muscles allowing of respiration. Very high temperatures are common a short time before and after death; a fatal termination occurs most often before the end of the fifth day and can occur within twenty-four hours. There is a chronic form in which the symptoms occur later, after infection, and are milder in character. There is little or no fever. The onset of the symptoms follows in the second or third week after the injury. The clinical picture is quite similar to that of acute tentanus, only not so impressive. There are remissions and even intermissions of all symptoms. Gradual improvement takes place and the patient recovers. Death may take place.

Head Tetanus: A very dangerous though rare form of tetanus follows infection of areas supplied by the cranial nerves, especially in the neighborhood of supraorbital branches. There is paralysis of the facial nerve with trismus, and at times great difficulty in swallowing. A maniacal frenzy is sometimes observed. There may be more or less general tonic muscular spasms.

Tetanus very, very rarely, nowadays, follows fresh operation wounds, because everything coming in contact with the wound except the skin of the patient, has been subjected to a temperature which renders even the spores inactive. It must be noted, however, that a number of cases of tetanus have been proven to have been caused by improperly prepared catgut. In emergency surgery it might be impossible to prevent contamination of a wound by the tetanus bacillus, but we have at our command a prophylactic measure which may be applied safely within a few hours, of which I will discuss the nature when I come to consider the treatment.

Diagnosis: There should be little difficulty in making a diagnosis of tetanus. It has to be differentiated from inflammatory difficulties about theh mouth or temporo-maxillary joint. These can be detected by inspection and palpation, and in case of the joint being affected, this is most commonly unilateral. In tetanus there is an early rigidity of the muscles of the neck. In severe strychnine poisoning there are usually complete periods of intermission (found also in chronic tetanus). The muscles of the hands are rarely involved in tetanus, in strychnine poisoning they commonly are. The spasms of hydrophobia are clonic. The *prognosis* is bad in acute tetanus, but the favorable signs are late onset, long duration, lengthening of intervals between attacks of muscular cramps. Statistics seem to prove that an attack coming on under ten days after infection, only four per cent recover; after ten to fifteen days, twenty-seven per cent; after fifteen to twenty days, 45 per cent. (Rose).

TREATMENT

Careful antisepsis is of the greatest importance as a prophylactic measure, and besides, all punctured and other kinds of wounds likely to have carried the germs of tetanus into the tissues should be freely opened, and all foreign bodies removed. It may be wise to do a debridement or excision of the wound if there has been a devitalizing of tissue. The wound should be cleansed by first using peroxide of hydrogen because of the anaerobic character of the bacillus; then thoroughly antisepticized with pure carbolic acid; wash this away with 95% alcohol. All such wounds should be treated on the open, free-drainage, antiseptic plan. Besides the surgical treatment of any wound which might be suspected as one liable to infection of the tetanus bacillus, the patient should be given the benefit of an injection of from 500 to 1000 or 1500 units of tetanus antitoxin as a prophylactic measure. After the development of the symptoms, the same antiseptic plan of treatment should be followed as far as practicable. All irritation should be avoided and absolute quiet enforced; liquid food may be swallowed, or failing in this, a tube may be introduced through the nose and suitable nourishment poured through it into the stomach. Morphine, chloral and chloretone are useful and necessary to relieve the pain and the muscular spasm. Sodium luminol, grains 1 to 3 to one cc of distilled water, is given in 10 cc doses hypodermically. It is reported to have a marked sedative effect.

From the British War Manuals* we get a general idea of the usefulness of serum therapy in this disease, as shown by the following table:

Incubation	Recoveries	Deaths	Mortality	Mortality before the introduction of Sero-therapy, according to Brunner
1 to 5 days	3	7	70%	90%
5 to 10 days	20	7	29%	70%
10 to 12 days	7	1	13.3%	
Over 12 days	15	1	6.6%	

My experience and knowledge of the use of antitetanic serum is not very encouraging, but it is the treatment which has the highest recommendation as a life-saving measure. In the University Hospital we have had nine cases of acute tetanus—eight deaths; ages ranged from two and one-half to seventy years; none had had a prophylactic dose of antitoxin. This high morality is due probably to the fact that almost all of the patients had had the tetanus symptoms well developed for two or three days prior to entrance into the hospital. All were given, as generally recommended, large doses of antitetanic serum sub-cutaneously, intra-venously, and intra-spinally; all as indicated, were given chloral, bromides and morphine. The patient who recovered—a man, age 59, had a palmar wound from a rusty nail ten days prior to entrance into the hospital; it had been treated in a proper way. The diagnosis was made the first day by Doctor Rogers, Ragan, Nebr; peroxide and iodine applied, and antitoxin given. Symptoms began eight days after injury. The man was given, in all, 158,000 units of antitoxin, one-half intra-spinally and the other intra-venously, spread over an interval of ten days.

During a period of years—the records are not available, but I recall a number of cases in the County Hospital with a rather better mortality record, due to the fact that the patients came under treatment earlier. The same has been my experience in private practice, but the mortality has always been very high. One of my patients in the Clarkson Hospital (from Herman, Nebr.), was of the puerperal type; she did not recover. Because of the fact that magnesium sulphate when given intra-spinally produces rapid and prolonged muscular relaxation, it should be used in severe cases of tetanus; there could be no objection to its being used in conjunction with the serum intra-venously. We have had one such case, treated in the County Hospital, which recovered. The dose should begin with one cc of a 25% solution of magnesium sulphate in distilled water, for each twenty-five pounds of body weight; this slowly injected into the canal. Calcium chloride injected intravenously will control any depressing respiratory symptoms caused by the intra-spinal injection.

One of the fatal cases in the University Hospital, year 1921, developed suspicious symptoms eight days after a cholecystectomy. She had been in the hospital nine days prior to operation. The diagnosis of tetanus was established two days later, on the 10th post-operative day. In this instance the infection either came from some slight unnoticed injury before entrance into the hospital, or else it is possible that the catgut used may have been infected. She was given 30,000 units intra-spinally and 15,000 intra-venously—chloral, bromide and morphine as sedatives.

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*University of London Press, London, 1918, page 193.

PHENOL TREATMENT

Phenol given sub-cutaneously in a two to three per cent solution in water—better perhaps in oil, has been used, especially by the Italians who introduced it in 1888. It certainly has some value, perhaps as much as the antitoxin after the tetanus is well developed. It was used during the War with encouraging results. I have personally used it, and I think with advantage; it is always available, and not expensive; the dose is 1 to 1.5 grams every twenty-four hours, divided so as to be administered every one to three hours. My rule has been to give the injections until the urine shows a smoky appearance. The antitoxin when available, may be given at the same time. The tetanus anti-toxin costs $2.50 for each 1,500 units.

I would like to emphasize what I believe to be important, and it is so stated by Hiss-Zinsser. Talloch and other observers favor a procedure based upon bacteriological grounds, of combining the antitoxins against gas bacillus infection, with that of the tetanus antitoxin in the prophylactic treatment of all wounds which may be suspected of either infection. This would have an especial significance in tetanus infection, because of the established fact that the toxin causing gas gangrene *"B. Welchii"* toxin, and to a smaller extent, that of *Vibrion Septique,* considerably aid the progress of tetanus, by, as he expresses it, "devitalizing the tissues"—hence I believe in the philosophy of the combined use of those agents in the phophylaxis of both infections, and who can, in examining one of these wounds, tell which infection may develop?

CLINICO-PATHOLOGICAL CONFERENCE

A. D. DUNN, M.D., INTERNIST, and A. J. MILLER, M.D., PATHOLOGIST.

Edited by L. L. Davidson, M. D.

CASE NOS. 24943, 25414. June 6, 1928.

A rather robust white farmer, 48 years of age, walked to the admitting room, March 9, 1928, complaining of:

1. Pain on left side up under ribs and extending down to left hip;
2. Lump over left hip, posteriorly, another under left ribs, anteriorly;
3. Sour stomach with belching and vomiting after meals;
4. Loss of weight, 40 lbs. in about 4 months;
5. Chills and fever for past three weeks.

He was admitted on the surgical service of Drs. Summers and Roeder.

ONSET AND DEVELOPMENT: The patient had had rheumatoid pains in the left ankle and knee off and on for the past 4 or 5 years. These pains were not accompanied with any other signs or symptoms. They were never on the right side of the body.

About two years ago, he was in Arkansas and Oklahoma for two or three months. He does not remember being sick while there but about three months after his return from the south he was in bed for two days with high fever and chills, severe enough to shake the bed, followed by a cold sweat. Another similar attack was experienced about six months later and again about the middle of February, 1928. In this last attack he had two chills, three days apart.

It was about two years ago when he first noted stomach trouble. There was a feeling of gastric distress which was relieved by vomiting or soda. The sour eructations sometimes contained food particles. At first the vomiting was infrequent but since last fall it had been a rather constant occurrence about three or four hours after meals, particularly the noon meal. The vomiting was preceded by nausea, usually not pain, but was always followed by relief. Food was never noted older than that taken the previous meal and never contained blood. Since January the vomiting had practically ceased.

During October, 1927, while the vomiting was so bad, he first noted a lump just above his left hip. This was tender and became so painful that it interfered with walking and stooping. It had not changed in size and was not troublesome at time of entrance.

About January, 1928, during one of his periods of abdominal distress he accidentally noticed a hard lump up under the ribs about in the midline on the left side. It was not tender nor painful but it seemed to have become larger.

In February, 1928, he consulted his doctor about this mass and this was the principal cause for his trip to the University Hospital.

PREVIOUS ILLNESSES: There were the usual childhood diseases. Except for a few minor complaints he had been apparently in the best of health until the trouble began two years ago. About this time he weighed his best, 300 lbs., but he usually averaged 260. Present weight 210 lbs.

FAMILY HISTORY: His father (73) and mother (69) are both living and well. He was the oldest of nine children, two having died at birth, three died from infectious diseases. His wife and two boys are living and well.

PHYSICAL EXAMINATION: A large, robust, middle aged man was up and about in apparent good health. His color was good and nutrition seemed fair, although his skin was loose and striae on the abdomen were numerous.

Head: Head well formed, hair oily. Vision was good, pupils were regular, reacted to light and accommodation but the right was larger than the left. No abnormalities were noted in the ears or nose. The teeth were in good condition, the pharynx injected, the tonsils atrophic.

Neck: Thorax was symmetrical, expansion good. Tactile and vocal fremitus were normal, resonance unimpaired, voice sounds were normal.

The apex beat was in the fifth interspace midclavicular line. No apparent change in size or shape. A soft systolic murmur was heard over the entire left base but was not transmitted. B. P. 140/88.

Abdomen: Numerous striae were noted. A heavy layer of fat on abdomen. Contour well rounded, consistency soft, no muscle spasm. A mass could be seen and felt in upper left quadrant, region of spleen. Mass was about size of outspread hand—extending from about 3 cm. to left midline to anterior axillary line and convexly down almost to umbilicus. It was about the shape of the spleen but the edge was rounded, there was no notch. It was smooth, hard, resistant to pressure and slightly tender. There was tympany superficial to the mass. Deep percussion was dull and extended up to about 6th and 7th interspace and axillary line.

A mass which fitted snugly into the palm of the hand was located on the posterior of the left ilium. It was hard, not tender and fixed. It did not seem to be continuous with the abdominal mass described above.

Genitalia: Normal.

Rectal Examination: A rather small, smooth, firm prostate with median groove and not tender.

Extremities: Reflexes were unchanged. No abnormalities noted.

LABORATORY: Urinalyses were repeatedly normal. A blood count, 3-11-28, showed a hemoglobin of 75%; R. B. C. 5,040,000; W. B. C. 7,400 of which 64% were polys. and 36% lymphos. Subsequent counts were practically unchanged. Stain smears showed no abnormalities. Wassermann was negative.

A gastric analysis was made. (15 minute intervals).

	Fasting	I	II	III	IV	V	VI	VII
Total Acid	30.0	18.0	28.0	37.5	55.0	65.0	66.0	00
Free Acid	17.5	10.0	24.0	27.5	45.0	52.5	58.0	00

Blood pressure ranged 136-140 systolic and 84-88 diastolic.

PROGRESS: Temperature 99.2 (R), P. 80, R. 20. He was in the hospital 12 days. There was a regular intermittent temperature, ranging daily 100.4—101 as the peak, to 98-99 as the base. Pulse varied correspondingly 60-120 and respirations 15-30 averaging 20.

March 12, 1928. "One film made of the lower torso after the introduction of the opaque ureteral catheters on both sides demonstrated a lumbar scoliosis at the junction of the lower segments. The right ilium is apparently fairly intact although there is a suggestion of some rarefactions in these films. I would, however, attribute most of it largely to overlying gas and fecal material in the bowel. On the left side there has been an apparent destruction of the medial third of the wing of the ilium from the crest down to about an inch and a half from the rim of the true pelvis. This apparently is also joined by some destruction of the lateral body of the sacrum at this point although it may be purely rarefaction. From these films we cannot see whether this has been an invasive process or due to pressure necrosis. There is a definite area of increased density apparently more or less continuous with the renal shadow on this side which overlies the defect in the ilium. The ureteral catheters pursue a fairly usual course save that the left turns rather sharply around at the upper margin of the third lumbar segment. The left renal outline is quite large and lies between the last rib and the crest of the ilium. Further film made after the introduction of the injection material demonstrates a very much distorted pelvis on the right side and a rather unusual looking pelvis on the left which has been divided into two essential major calyces. The minor calyces are poorly demonstrated. The appearance is very suggestive of a neoplastic invasion or pressure destructive of the ilium on the left side. Further studies will be made of the bone structure in detail."—Carleton B. Peirce.

In Dr. Edwin Davis' report, further information is given. The bladder urine was normal. Urine from the right catheter was clear, negative chemically and microscopically with a 12% phthlein output in 15 min. From the left catheter it was cloudy, otherwise negative and again had the 12% output in 15 min. His interpretation of the pyelogram—"There is some displacement of the upper ureter toward the midline, suggesting a retroperitoneal mass."

March 14, 1928. Fluoroscopic and radiographic examination of the gastro-intestinal tract result in the following conclusions: "—Our findings would indicate no evidence of intrinsic gastro-intestinal organic lesion, but would show evidence of disturbance of the position of the stomach, small bowel, transverse and descending colon by displacement of the tumor mass." —Carleton B. Peirce.

March 21, 1928. Patient was dismissed from the hospital with instructions to report within about two months for observation.

May 3, 1928. He reported to the follow-up clinic for examination. The mass in the abdomen appeared to have changed but little. It seemed to have increased some in size, extending to the umbilicus. He complained considerably of the left hip when this mass had increased so that it was too large to fit into the palm of the hand. His weight had not changed. He was again hospitalized.

Urine and blood examinations were normal. Temperature ranged 98.6—100 (R), pulse around 80, respirations about 20. After a week's observation giving no further information, an exploratory was done at his request. He did not recover from the operation.

DR. DUNN'S DISCUSSION

"In attempting to evaluate the complaints which brought the patient to the Hospital, we are confronted with a conglomeration of symptoms that are difficult to analyze—symptoms which are more or less conflicting. First, the pain in the left side up under the ribs and extending down to left hip, suggests a left abdominal problem. We can associate this pain with his gastric symptomatology: Sour stomach, belching of gas and vomiting after meals. Next we have loss of weight—10 lbs. in 4 months—which may mean anything from carcinoma or chronic inflammatory disease to failure to eat. Chills and fever for the past three weeks indicate an infectious element.

"His trouble began with rheumatoid pains in left ankle and knee which had been present irregularly for the past four or five years. There were no other local symptoms or signs and the pains were always confined to the left side of the body. Of late the pains—still remaining on the left side of the body—have occurred in the hip and up under the left ribs. Are these unilateral pains associated pains due to the same or different causes? It is very possible that his complaints on admission were preceded by rheumatic symptoms, but it is a strange rheumatic infection that holds entirely to joints on one side of the body and to one extremity. Patients often have trouble for six months or a year where the pain resides in one ankle or knee, but, usually sooner or later, it shifts. That suggests the immediate possibility of a lesion high up involving the nerve distribution to the left lower extremity. Such pains may occur without other signs or symptoms.

"Two years ago the patient was in Arkansas and Oklahoma for about two or three months. Three months after his return, he first suffered from chills and fever. Another attack occurred six months later. In the last attack there were two chills three days apart—one month before entrance to the Hospital. What do you think was the most likely cause of the chills?"

Student: "Malaria."

Dr. Dunn: "The fact that this is not a malarial region need not bother you in making a diagnosis of malaria. Malaria has occurred in this region sporadically. But three months would be an unusually long incubation period for malaria. The second attack occurred six months later and during the last attack there were two chills but three days apart. It would be a rather far cry to consider that malaria was the trouble. We cannot give an interpretation of these chills and fever. He must have had some temporary infection which may have been in connection with the disease, or it may not have been.

"About this time he first noted his stomach trouble. He had gastric distress relieved by vomiting or soda. At first he vomited infrequently but since last fall it had been a rather constant occurrence preceded by nausea, usually without pain but always followed by relief.

"Let us rest here for a moment and consider these gastric symptoms: A man comes to your office complaining of sour stomach, distress after meals especially after heavy meals with pains which are relieved by vomiting or soda. Where are you going to look for that trouble?"

First Student: "In duodenum or gallbladder."

Second Student: "In stomach."

Dr. Dunn: "What odds would you give that you find the cause of trouble in the stomach?"

Student: "I would say three to one in favor of the stomach."

Second Student: "About two to one against the stomach."

Third Student: "I would give no odds. I wouldn't bet even on it."

Dr. Dunn: "Would you take the field against the stomach?"

Student: "About three to one it isn't the stomach."

Dr. Dunn: "I agree with you. In a routine analysis of gastric symptoms, I would give three or four to one that the pathology is not in the stomach. The stomach is the focus for symtomatology arising from processes occurring along the gastro-intestinal tract. The group of symptoms causing stomach trouble may be due to a number of causes:

1. Reflex. Symptoms of stomach derangement may arise from organic diseases outside the stomach, such as gallbladder, appendix, pelvis, kidney, spleen or pancreas. I am predicting that this patient's gastric symptoms were reflex in origin.

2. Disturbance in gradient. Professor Child, Professor of Biology in the University of Chicago, a number of years ago developed the idea of gradient of metabolism and irritability. He found in planoria, for instance, that in a certain area there was an increased potential or maximum energy output and that such an area controlled the organism. Alvarez applied the idea to the gastro-intestinal tract. For example, the cardiac end of the stomach was positive as far as its metabolic activity and irritability was concerned as compared to the pylorus; in other words, the upper part of the stomach contained a higher metabolic potential or gradient and the movement was from the cardiac end of the stomach toward the pylorus. The same applied to each succeeding part of the gastro-intestinal tract until some process is set up that abnormally increases the excitability or irritability of a lower point. An inflammatory condition of the appendix occurs and produces an increased irritability so that the irritability becomes greater in the ileocecal region than in the stomach, the gradient is reversed and the patient vomits. Irritability in the sigmoid occurs in cases of constipation and produces a reversal of the gradient resulting in vomiting. In duodenal ulcer we have pyloric spasm, vomiting and often failure of the stomach to empty because of a reversal in the gradient. In appendicitis, carcinoma, umbilical hernia and any mechanical and chemical disturbance in the gastro-intestinal tract, reversal of the gradient may occur.

3. Central Nervous System. Stomach symptoms may be caused by spinal cord disease or disturbances in the central nervous system.

4. Cardiac. Gastric symptoms may arise from circulatory disturbances such as cardiac decompensation, myocardial or endocardial disease.

5. Toxic, such as we get in pulmonary tuberculosis or in other infections.

6. Psychogenic.

Keep these in mind and remember that when your patients come complaining of gastric symptoms, bet at least three to one against their being gastric in origin.

"During October, 1927, while his vomiting was so bad, he noted a lump above his left hip. This was tender and became so painful that it interfered with his walking and stooping but it did not change and is not troublesome now. In other words, he presents here another crucial symptom—lump on left side below the ribs in midline. February, 1928, he consulted his physician about the mass and obtained admission to the University Hospital. His weight loss had amounted to about 30%.

"In the physical examination there was nothing of particular note, until we come to the abdomen. The inequality of pupils had suggested the Wassermann reaction but we later learned it to be negative. He was a heavy man. There was a heavy layer of fat on the abdomen which was well rounded, smooth and gave no muscular spasm. This would seem to exclude any connection between the tumor mass noted and the muscular tissue.

"A mass could be seen and felt in the upper quadrant in the region of the spleen. It was about the size of the outstretched hand extending convexly downward almost to the umbilicus. It was about the shape of the spleen, the edge was rounded but no notch could be felt. It was smooth, hard and resistant to pressure. It was slightly tender. There was tympany superficial to the mass. What does that mean?"

Student: "A retroperitoneal tumor."

Dr. Dunn: "Probably, but not necessarily true. The spleen could not be positively ruled out although the notch was not felt. What about the movement?"

Dr. Davidson: "Movement could not be elicited. The mass did not move with respiration."

Dr. Dunn: "In other words, the mass was fixed. A smooth tumor, hard, but with the absence of notch and no disturbance in blood count. The probable location of the tumor is in the left lumbar gutter."

Dr. Miller: "There was more than the usual amount of fat in the abdominal wall. It would be impossible to ascertain definitely the smoothness of the mass and its consistency."

Dr. Dunn: "When you come to determine the type of tumor in the left lumbar gutter, what would you expect?"

Student: "Adrenal, kidney, spleen."

Dr. Dunn: "Yes, when one attempts to consider the many possibilities of tumor in the left lumbar gutter, a big job has been outlined:

1. Adrenal.
2. Kidney.
3. Retroperitoneal tumors from (a) connective tissue, (b) muscle, (c) fat, (d) bone, (e) inflammatory tissue, (f) metastatic tissue, (g) fetal rests. All sorts of bizarre tumors occur in left lumbar gutter. In fact I think Dr. Miller will agree with me that the lumbar gutter may contain almost any kind of tumor.
4. Gastro-intestinal growths.
5. Pancreatic.
6. Aneurysm.

"Another mass was located on the posterior crest of the left ilium, a mass which fitted snugly into the palm of the hand. It was hard, not tender and fixed.

It did not seem to be continuous with the abdominal mass considered above. A rectal examination revealed a normal prostate. That is very important in any case of tumor in the abdomen or bizarre tumors anywhere in the body. Carcinoma of the prostate may mestastasize to rather unusual places.

"Urinalyses were repeatedly normal. What does that mean to you?"

Student: "Rules out the kidney."

Dr. Dunn: "Assuming that a mass of this size arising in the kidney would invade the kidney substance and pelvis, these negative urine analyses should rule out that organ.

"The blood counts were approximately normal. Gastric analysis was normal. What did the radiographic examination of the stomach show?"

Dr. Davidson: "A fluoroscopic examination of the stomach and gastro-intestinal tract on March 4, 1928, gave no evidence of intrinsic gastro-intestinal organic lesion, but did show evidence of disturbance in position of the stomach, small bowel, transverse and descending colon by displacement by the tumor mass."

Dr. Dunn: "That rules out the gastro-intestinal tract. It is to be noted there was an absence of stool analysis. Bleeding from the intestinal tract with this sort of a layout would be a rather significant thing. It is an easy test to make and is much less expensive than a fluoroscopic examination."

"We come to the x-rays. A large part of the left ilium has been "bitten" out, there having been no apparent change in the surrounding bone. Here probably lies the explanation for the rheumatism in the left ankle, knee and hip. We were dealing here with a destructive process. There was no evidence of inflammation. There was no sign of repair. There was no apparent defense, nor objection on the part of the tissues to the invader. That is characteristic of tumors. While occasionally inflammation will progress rapidly, there is nearly always indication of repair from the x-ray standpoint. Primary and metastatic tumors of the bone have this "chewed-out" appearance.

"The gastro-intestinal rays were negative for intrinsic pathology. Pyelograms were both abnormal, both pelves were distorted. I infer from the interpretation given the films that the peculiarity of the pelvis of the kidney and the kidney substance, as seen from the x-rays, are best explained by pressure from without rather than the involvement of the kidney tissue. Furthermore, it would seem that a tumor mass developing in the kidney would invade the pelvis and give evidence of its invasion in the urine. It would be unique for tumors of the kidney metastasizing to give us only one bony metastasis. It seems that only one metastasis existed for the tumor was large. The history extended it over a long period of time and no other signs nor symptoms were elicited to attract attention elsewhere. I believe, because of the unusualness of such a metastasis, with the absence of invasion of the pelvis of the kidney with such a large mass and the otherwise negative urological and roentgenographic findings, that we can put the primary tumor outside the kidney substance. The tail of the pancreas would be rather a far cry for the seat of the tumor. The mass extended down lower than a tumor of the pancreas would extend.

"Our evidence points to a differentiation between a malignant growth in shape of carcinoma of ilium with retroperitoneal metastases or a primary tumor of the kidney with a single bone metastasis in the ilium. I have given my reasons why the latter seems unusual: the tumor existing over a long period of time with but a single metastasis, negative kidney findings, pyelographically and chemically except for pressure phenomena. The mass in the pelvis does not appear to be an inflammatory mass. By exclusion I will have to assume we are dealing here with a primary growth of the ilium with retroperitoneal metastases.

"In attempting to explain the temperature which ran a rather intermittent course, I cannot believe that there was any obvious infection on which to lay the blame. A febrile reaction is apt to occur as a toxic, foreign protein reaction from broken-down tumor tissue."

DR. MILLER'S DISCUSSION

"The abdomen was covered by white striae indicating that there had been much loss of weight but there was no emaciation.

"The tumor removed at operation occupied the site of the left adrenal. The left adrenal was not present. Evidently it had been destroyed by the neoplastic process. The mass removed was roughly shaped like the adrenal. The left kidney was pushed downward being displaced by the tumor mass in the site of the adrenal. This displacement resulted in slight kinking of the ureter but there was no obstruction. There was no tumor mass to account for the pelvic shadow in the x-ray picture. There were but two calyces in the pelvis. In the cortex of the kidney at the lower pole there were two neoplastic masses about 3 cm. in diameter. These are metastases and are similar in structure to the neoplastic tissue elsewhere.

"The right adrenal was large and practically destroyed by tumor tissue similar to that on the left side. The right kidney was about twice normal size, its increase in weight being the result of a neoplastic mass in the parenchyma near the pelvis. This mass was pinkish-gray in cross section, was destroying kidney tissue, but had not eroded its way into the pelvis. Sections taken from different tumor masses showed them to be identical in structure. There were epithelial cells arranged in imperfect tubule formation. The nuclei were round. The cytoplasm contained many vacuoles. Mitotic figures were quite abundant. Large portions of the tumor consisted only of connective tissue and mucoid substance which was the result of degeneration of the epithelial cells. Tumor is believed to have had its origin in the tubular epithelium of the right kidney and has metastasized by way of the blood stream to both adrenals, the retro-peritoneal lymphnodes, connective tissue of the pancreas, and the left ilium. The mass in the left ilium had completely destroyed the bone over an area of about three centimeters. There was no continuity of tumor tissue between this mass and the one removed at operation. The tumor in the ilium did not extend to the sacral plexus. There was no erosion of the vertebrae.

In the older literature these tumors are classed with the hyper-nephromas because of the similarity of cells. Recently it is believed that this class of tumors should be divided into the true hypernephromas and carcinomas of the kidney. The present tumor is in this class. It differs from the true hypernephromas in the absence of yellow pigment and in the arrangement of cells.

"The absence of hematuria is explained by the fact that the tumor had not eroded through the pelvis into the urinary tract. There were no autopsy findings to explain the pain in the lower limb.

"An interesting incidental autopsy finding consisted of many peptic ulcers along the lesser curvature of the stomach. Some of these had healed. The active ones were less than 1 cm. in diameter.

"The necropsy findings were summarized as carcinoma of the right kidney with metastases to both adrenals, the retro-peritoneal lymphnodes, pancreas, left kidney, and the left ilium. The death was attributed (from the history) to operative shock."

Dr. Dunn: "The Clinical Diagnosis has been substantiated insofar as a malignant growth with metastases is concerned but not as to the seat of the primary tumor. The urological findings were not present which would have enabled one to diagnose the seat of the primary tumor in the right kidney. The pelves of both kidneys were distorted. Without urinary findings it is impossible to say whether such distortions in the presence of metastatic new growth are due to pressure from invading metastases or from the primary neoplasm. In order to diagnose a primary growth in the kidney positive urological findings are necessary. The primary growth in our diagnosis was placed in the ilium purely on a statistical basis, viz., the extreme rarity of a single massive bone metastasis. A discussion of the location of the primary growth may seem to be largely scholastic for if a patient has a malignant growth with extensive metastasis, it boots him little where the primary tumor lies. As physicians, however, it is important for us to analyze clinical data to the limit that it may whet our diagnostic acumen."

SOME OF THE COMMON EYE DISEASES AND INTERNAL SECRETIONS

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The investigations of recent years have revealed so many changes in the human system that have been found to be more or less directly the result of various derangements of the internal secreting glands, that I considered it would be of sufficient interest to even those of you doing general practice to discuss some of the commoner eye disorders, and call your attention to their probable similarity as to their cause, especially as to their apparent result of glandular derangement.

For brevity, I shall limit my remarks to three conditions, all of which observation has convinced me are oftentimes more or less directly affected by the internal secreting system. They are glaucoma, myopia and cataract. I do not expect to convince all of you that my idea is the only one that has reason for consideration. But I do believe proper study and thought will show you the very close relationship that does exist between these ophthalmic afflictions and the internal secreting system. It is impossible to give scientific reasons for all conclusions but I will only hope to stimulate your already active thoughts in this most interesting direction. I have not considered internal secretion derangements the only cause for these afflictions. On previous occasions I have classified the causes of glaucoma as traumatic, infections, and internal secretion derangement. It is not impossible to consider that some of the conditions apparently resulting from the two former are much affected by the result of the actions of these upon the internal secreting glands either directly or through the central nerve system.

Myopia has been considered by some authors as a form of glaucoma. However, there does not appear to be any definite reason for this except that they both in their progressive state are destructive to the normal anatomic structure of the eye. Also that similar treatment as myotics, rest, diet and properly equalizing the internal secretions are beneficial in both conditions. Myopia more often affects youthful patients at an age of development and equalizing of the internal secreting glands. Glaucoma as myopia may affect any age but instead of being more generally a condition affecting youthful patients more often affects those who have passed their active development. Either may be found at any age.

Many similar conditions apply to cataracts, although cataracts are more generally found to affect the two extremes of age. Except as a result of some external cause it is not often met with in middle age. The development of cataract opacities will generally be found in patients who have especially a deficiency of proper secretions. This especially appears to be proven by those persons whose cataract development seems to be caused by diabetes, or some other metabolic disease. Also by the fact that we often receive much improvement by the injection of lens extract which appears to replace that deficiency caused by improper metabolism. It is not the purpose of this paper to discuss the relation of lens extract and internal secretions but it appears as if they are both so closely related as to be practically inseparable. The injection of lens extract in the treatment of cataract appears as if it may be compared with the administration of a specific vaccine while the administration of glandular extract or glandular substances replaces that part of the glandular deficiency which causes the proper metabolism resulting from normal glandular secretions. Inasmuch as it is impossible to gradually inhibit the action of each of the glands either by slow destruction or by central nerve inhibition for experiments it is generally more reasonable to consider the glands are all under the control of some central nerve center; therefore, working in harmony to equalize the functions of the various internal secreting glands.

The direct method by which the various functional changes take place to cause the various changes not only in cataract but in glaucoma and myopia must in some future time be worked out in our experimental physiology laboratories. Our conclusions must generally be based upon results obtained clinically and not hinder our efforts by trying to first work out some scientific theory of cause. I will only review briefly one case of each that I may probably make myself more thoroughly understood:

Female, age 45, married, general physical examination negative; tonsils out; sinuses clear and normal; nose normal; teeth good; none devitalized. Complains of various headaches and eye discomforts. She did not have any particular time of distress but especially noticed sleep or rest did not give relief. Menstruation normal and regular; vision each eye 20/40; Plus 25, Plus 50, axis 90, E. E. 20/20 minus; letters somewhat blurry. Field normal, cornea, sclera and conjunctiva clear; pupil regular but sluggish. Tension by fingers plus; tenometer, R 31, L 32. Fundi normal except a very slight retinal congestion. No areas of degeneration. One drop of eserine in each eye contracted the pupils to pin-point size. In one hour the tension was, R 24, L 25. After the pupil was contracted and the tension reduced she was comfortable. The pupils were kept somewhat contracted for one month to retain about the same tension. She was also given mixed gland extract. After one month, by continuing the gland extract and discontinuing the myotic, she remained comfortable with tension about 24. Later, by discontinuing the gland extract, the tension went higher and she became uncomfortable until gland extract was given again.

Student, age 12, general physical examination negative; had been wearing plus 50 axis 90 E. E. given after homatropine refraction two years previously; now complained that she could not see objects at a distance. Vision under homatropine with minus 2.00 sphere E. E. 20/20. Two years later the myopia had increased to O. D. minus 4.00 minus 50 axis 180, O. S. minus 3.00 minus 50 axis 180. Two years later it had increased to O. D. minus 4.50 minus 50 axis 180, O. S. minus 4.75 minus 50 axis 180. She was given mixed gland extract and internal stimulating medication with proper diet. Now, four years later, she does not accept any change in correction with vision normal in each eye with her above correction.

Saleslady, age 23, complained of vision blurring. General physical examination negative. Family history negative except a younger sister at the age of ten and her mother at the age of 42 had previously been operated for cataracts in each eye; three other sisters showed no signs of lens change. Both eyes were normal except some opacities of each lens. V- O. D. 20/50, O. S. 20/40. She was given mixed gland extract continuing over about six months, with proper diet. She was then given stimulating internal medication and now, four years after, has not shown any increase in lens opacities.

Concluding, no one can realize more thoroughly than the one who has given these subjects much time and consideration, the many obstacles to be surmounted in the study of this branch of gland therapy. Nor do I fail to recognize the many arguments that may be advanced against any glandular theory. However, observation has convinced me that a normal functioning body with normal glandular activity is much more free from these abnormalities than one not normal.

CLINICAL NOTE ON A CASE OF HYPOGLYCEMIA WITH UNUSUAL SYMPTOMS

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While the symptoms occurring in hypoglycemia are generally known to vary quite widely in character, this brief clinical report is made because of some unusual characteristics.

A city mail carrier, age forty-one, height 6 feet, 2 inches, weight 172 pounds, showing at all times a slight icterus, has had a severe diabetes since 1924. He has required an increasing amount of insulin until he is now taking 50 units daily. In order to maintain his weight and strength it has been necessary to take a relatively heavy diet equivalent to approximately 285 grams of fatty acid and 195 grams of glucose. The difference between the amount of insulin necessary to prevent excretion of sugar in the urine and that which would produce a mild hypoglycemia reaction has at all times been slight. Until recently the patient has recognized the appearance of hypoglycemia and readily controlled it by small amounts of orange juice or sugar.

On October 27, 1927, about 8 p. m., a brother, with whom the subject was walking about, noticed that speech was incoherent and the movements inco-ordinated. Complete loss of motor functions and spastic hemiplegia was followed by aphasia, without loss of consciousness. Two months later a similar attack occurred in which the characteristics were noted closely either by the family or the physician and closely paralleled those observed in alcoholic intoxication coming on without the usual premonitory warning symptoms or without the appreciation of the individual. These were in the order of their occurrence as follows: Hilarity, loss of insight, incoherent speech and muscular inco-ordination. The reflexes were exaggerated, but no definite evidence of vasomotor disturbance was present. Movements were entirely automatic in response to emphatic command and without any modification through judgment. All symptoms entirely disappeared in ten minutes after the administration of 10 grams of sugar by mouth. The third and fourth similar attacks occurred at intervals of about one month and on one occasion, the actions and appearance of the patient lead those about to believe that he was intoxicated.

June 23, 1928, on the day following a mild attack of hypoglymecia, the blood sugar was .242 per cent and the metabolic rate —11.

The question is raised whether in such circumstances, there is a retarded rate at which glucose is made available for metabolism. Petrin (1) reports unusually low nitrogen metabolism on low carbohydrate and high fat diets. Okumura (2) concludes that insulin inhibited to a certain extent the stimulating effect of the thyroid on metabolism.

This report is made to emphasize two points. First; hypoglycemia may appear without any premonitory symptoms or at least without the subject being aware of their occurrence. Second; such an attack could readily be mistaken for alcoholic intoxication and proceed to a fatal outcome.

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SOME MEANS FOR THE PREVENTION OF CESAREAN SECTION*

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Members of the Nebraska State Medical Association: It is a great pleasure to be allowed to speak to you on a subject in which I think many of you will be vitally interested, and all will be interested in some way. Ever since I read the report from Massachusetts of the high mortality from cesarean section in that state, I have been impressed with the idea that even though there are some large hospitals, like Dr. De Lee's in Chicago, where diagnosis is carefully made and the patients seen early—I am sure in this institution cesarean section has met with fine statistics, the death rate being low—where we have patients not seen until late and where you gather statistics from small hospitals over the country, the high mortality we get from cesarean section is quite alarming.

In my own hands, I feel I have great success with cesarean section, especially since I do the operation you all know as the cervical cesarean. I make one little improvement, it seems to me, in the operation, in that I do not cut the cervical tissue at all. When I do a cesarean section, I make a little transverse cut in the peritoneum only, and plunge the Mayo blunt scissors through the cervical muscle just as when you wish to separate the recti muscle. I plunge my blunt scissors through the cervix deep enough to get my fingers in and separate with my fingers. There is no bleeding—no cut ends of the muscles. It makes the cesarean section less of a shock and we get nice results.

In spite of that fact, I feel we should avoid cesarean section as far as possible. There have been three different methods that I believe have saved me from doing a large number of cesarean sections; in fact, at the Cook County Hospital my record of cesarean sections was away below that of the other three physicians on the service.

First of all, I think one of the reasons why we do cesarean sections is because the patient gets exhausted. Especially at the County Hospital, we have had success in using scopolamin in all cases of obstetrics unless very rapid, coming on almost precipitately. I mention it here because it is so very simple and because I can assure you all those bug-bears you have had with reference to twilight sleep can be swept away if you will follow this method. This does not produce absolute unconsciousness not does it intend to. It is simply to relieve exhaustion. It is not only to relieve exhaustion but to make it safe for the baby and make the labor more rapid; to give a bigger contraction of the uterus so that the patient will be delivered a little quicker.

When the patient has a dilitation of from one-fourth to one-third of the cervix—about two or three centimeters dilitation—I begin the scopolamin. I give 1/100 of a grain and no morphine —not a grain. If the labor is rapid, in one-half hour I give another dose of 1/100 grain. If not rapid and the patient is not suffering, I wait an hour before I give the second 1/100 grain. I keep it up every two hours after that, giving 1/100 grain at a time. It is very surprising how much it will stimulate the contraction of the uterus. It makes a longer period between contractions and much more forcible contractions.

I have heard the internes say, "There comes Dr. Van Hoosen. It will be all over in a couple of hours! She will give a dose of scopolamin."

It is not the way I give it in my own hospital. I give three doses one-half hour apart, and 1/100 grain every two hours. That makes complete anesthesia. The patient is unconscious. But you must have a special apparatus to put her on. She will cooperate if you give her analgesia without anesthesia. You will never have a blue baby, but a baby so red it looks as if you had been giving it belladonna. That is a belladonna or twilight baby when red. It is a morphine baby when blue. That is one of the most important methods of preventing some cesarean sections, because you prevent the exhaustion of the patient.

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*Notes on a talk given before Nebraska State Medical Association, Lincoln, May, 1927.

There is another method I use. It is so simple it is almost ridiculous. You can hardly believe the stories the internes tell about what they call my "belt." I have a belt in two parts. (Shows one of these belts.) Slip this under the back of the patient. Put this over the abdomen. The sides are put together by these straps. As it is constructed, when you draw it up, it holds. I not only use it myself, but so many of the men on the service say, "Where is that belt? I can not spend any more time here." The labor will be coming on slowly. It is a multipara. With that pendulous abdomen, when you have a contraction of the uterus, the relaxed abdominal wall gives way to it, and the force of the contraction is entirely lost. You get better contractions in a primapara with a good, tense abdominal wall. You can make it as tense as you want to with this belt. This was brought out by Dr. Beck from Brooklyn in the American Medical Association in Chicago, and I also displayed this belt at that time. I know of nothing more helpful, especially if it is a case where there are pains until the patient is exhausted, and yet your labor does not progress.

I have seen a patient in labor for hours, and you are going to put on forceps or do a cesarean or something, when somebody would suggest to use the belt. You put on the belt, and without any exaggeration, this case would be delivered before the half hour was up. It is so wonderful in hurrying on labor, it is called in the hospital "external pituitrin." If that does not give you an idea of what it does, nothing else will. It is a good name for it.

There is one thing I cannot stress too strongly. The thing that has done most to cut down my number of cesarean sections is because I do a pubiotomy. When you have a conjugata not less than seven, you can do a pubiotomy. What is better than to do it at the time of labor is to do it at eight months. I could spend the rest of the afternoon telling you of wonderful results I have had in pubiotomies. Just as soon as you break the continuity in that bone, the pressure the pelvic arch is under is dissolved, and you will have a separation of an inch within a minute. When you have gained an inch, that baby can get through.

What happens to it afterwards? Nothing happens to it. When you come to your surgical section, you will have your surgeons tell you you can have a fracture of the pelvic bone and the patient can dance and walk. The thing that means more than anything else is that I have been doing pubiotomies for the last seven years on every case that needed it, instead of cesarean section; and I have not a single patient who does not say she walks just as well as before, and you can observe she does. I have followed them up. I have taken an x-ray before and after; at the end of six months, and again at the end of a year, and up to five years.

I wish you to remember cesarean section statistics are high when it comes to collecting them. What we need to do is to study and think more of how cesarean section can be prevented. This is only a suggestion of three ways that have helped me more than any other to cut down my cesarean sections to not more than a very few every year—those with very definite indications that can not be met in any other way.

THE INJECTION TREATMENT OF VARICOSE VEINS

The injection treatment for the obliteration of varicose veins is attracting increasing attention. The French school, under the leadership of Sicard, has been using sodium salicylate in solutions of from 20 to 40 per cent. Linser used 20 per cent sodium chloride solution, and reported 6,000 injections. Noble, in Germany, has made injections in 3,000 patients with 50 per cent dextrose. Meisen uses equal parts of 25 per cent solution of sodium salicylate and 10 per cent sodium chloride. In this country, McPheeters has reported favorable results with sodium salicylate. The most important consideration in connection with the injection method is the danger of pulmonary embolism. Thus far, reports of four cases of fatal pulmonary embolism seem to be available. Of these, two occurred after correct technic and, therefore, appear unavoidable. Against these two fatalities there are reports of 14,000 successful injections. The efficacy of the method will depend much on the proper selection of cases. Definite contraindications to the injection method include cardiac and renal disease accompanied by venous stasis and dilatation of veins, hypertonus, changes in and obliteration of the deeper veins, pregnancy, and large intrapelvic tumors. (*Jour. A. M. A.*, August 4, 1928, p. 322).

THE OLD ALIBI

Servant: "The doctor's here, sir."

Absent-minded Man: "I can't see him. Tell him I'm sick."—Lafayette Lyre.

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Dr. R. W. Fouts, Omaha	1928

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Note: In case of suit notify secretary at once.

THE DOCTOR IN POLITICS

Politics is the science and art of government; the science dealing with the organization, regulation and administration of a state in both its internal and external affairs; political science—so says the dictionary.

Time was when it was thought a physician must remain aloof from politics and attend strictly to the duties of the profession; *time is* when the physician must take part in politics in order to do his duty to himself, to his profession and to the state. The time honored doctrine of non-participation has had its effect on the profession and to a less degree affects the profession today. Active participation by this learned profession is not the rule.

Problems of state are constantly coming to the surface that need the best thought and active interest of everybody in and out of the profession, to solve and solve correctly. The doctor must take an interest in the everyday problems of his community, state and nation—and his education particularly fits him for such participation. The medical profession must get into the political maelstrom to safeguard the interests of the profession and to assist in the solution of the public health problems before us.

An election is at hand and matters of the utmost importance to the profession and to the public depend on the personnel of the next State Legislature and the Congress. Every physician should do his duty as he sees his duty.

The suggestion has in times past been made that there should be a medical officer in the President's Cabinet to look after the interests of the medical profession and to represent the public health of the nation.

The proposition needs no argument to support it; it is self evident. If the 150,000 physicians of the United States get behind the proposition it may become a reality.

The American Medical Editor's Association recently expressed the sentiment that there should be a Medical Officer in the President's Cabinet and has inspired propaganda toward arousing the interest of the medical profession in the movement. It is up to the individual members of the profession to foster the movement.

THE JOURNAL'S NEED FOR COPY

The Journal needs more copy than has been offered so far this fall. Due to the facts that at the annual meeting more and more numbers on the program are either dry clinics or screen lectures, the papers offered are fewer from year to year and these are published during the summer and fall months. With the November number all the annual meeting papers, but one, are published.

If the Journal is to maintain its position as a medical journal more contributions are needed. The editor cannot well publish a journal without copy, or with insufficient copy. Each issue of forty pages uses from ten to twelve original papers. It follows, therefore, that the need is for about sixty papers between the date of this issue and the next annual meeting.

This suggests, at once, an opportunity and an obligation to the members of the association to furnish the editor with sufficient copy to keep up the usual forty pages and the high standard the Journal has attained. There is an immediate need for a dozen papers and we have implicit faith that the profession, knowing the dire need, will furnish them.

THE TEACHING OF OBSTETRICS IN OUR COLLEGE CURRICULA

It has been pretty generally recognized for some time by the careful observer that the teaching of Obstetrics in our American colleges has not been given the recognition its importance deserves. The matter has been discussed from time to time in the medical press. Great reforms come slowly. Much time and energy has been spent in standardizing medical school curricula in their entirety; but the relative importance of some of the subjects—notably Obstetrics—has not received the attention its importance deserves.

The American Association of Obstetricians and Gynecologists at the 1927 meeting at Asheville resolved to call to the attention of the American Medical Association and to the Association of American Medical Colleges a plea for equal recognition of General Surgery and Obstetrics in the curricula of medical schools of the United States.

The matter was brought before, and considered by, the House of Delegates of The American Medical Association at the recent Minneapolis meeting, referred to the Reference Committee on Medical Education and reported back adversely, probably—it may be heresy to say so—without full consideration.

It has remained for our own Dr. Palmer Findley, Omaha, in his Presidential Address before the Toronto meeting of the American Association of Obstetricians and Gynecologists in September to give the findings of a world wide survey on obstetric teaching made by him during the past year with startling clearness and force. Dr. Findley's address was a plea for larger recognition of obstetrics in the clinical teaching of our schools. At present four and one-half times as much time is devoted to teaching surgery as to obstetrics. A questionnaire sent to general practitioners revealed that 35% of the general practitioner's time is devoted to obstetrics; 50% to internal medicine and 15% to minor surgery, fractures, life insurance, etc.

Dr. Findley submitted the following propositions:

"1. If it is the business of our undergraduate medical schools to prepare students for the general practice of medicine, it follows that Obstetrics should have a large place in the curriculum.

"2. In the general practice of medicine, Obstetrics far exceeds that of General Surgery in importance and is only second to that of Internal Medicine. Such should be the relative positions of these subjects in the curriculum of our schools.

"3. The demand in number of academic hours upn medical students is already excessive and should be reduced. To provide time for clinical instruction in Obstetrics, without adding to the burden of the student the didactic teaching in Obstetrics, as well as in all clinical subjects, might well be restricted to the fundamentals; much of the teaching in General Surgery should be shifted to graduate schools and far less emphasis should be placed upon minor specialties.

"4. The need is for more practical instruction in Obstetrics and this can only be attained in hospitals and dispensaries. The service in the out-patient department, as commonly conducted in our institutions, is no adequate substitute for the dispensary and the hospital.

"5. Not less than one month should be devoted exclusively to a maternity service. In this service the student should deliver a minimum of twenty cases, under the direction of trained clinicians; and the importance of prenatal supervision should be stressed.

"6. Everywhere throughout the world it is apparent that the teaching of Obstetrics is receiving more and more consideration. The medical schools of the United States are lagging far behind most schools of the world in practical instruction and this for lack of adequate clinical facilities and the time to devote to it. There must be a revamping of the entire curriculum in our schools to the end that our students may be better prepared to meet the demands of the general practice of medicine.

"7. The maternal morbidity and mortality, which in the United States has not decreased in the last fifteen years and is today the highest of the twenty-one leading nations, is chargeable to educational defects and will not be materially reduced until our institutions provide more adequate clinical facilities.

"8. From my correspondence I learn that the countries in which part or all of the institutions give obstetrics and gynecology, combined, equal recognition with General Surgery are: Russia, Poland, Ecuador and Argentina; that in Germany, France, Norway, Sweden, Holland, Italy and Switzerland the allotment is nearly equal; while in England, Scotland, Wales, Canada, Australia, Egypt, Finland, India, Cuba, Czechoslovakia, Chile, Peru, Brazil, Austria, Hungary, Mexico, China, Siam and Haiti give much more to surgery than to obstetrics and gynecology, the proportion being about two to one. However, it is of interest to note that in none of these countries is Surgery given so large a proportion of the teaching hours as in the United States where the ratio of Surgery to Obstetrics is in the neighborhood of 4½-1.

"9. The American Association of Obstetricians, Gynecologists and Abdominal Surgeons, respectfully petition and urge those who are in official command of the situation to remedy this state of affairs. We ask this with no desire to unduly exalt ourselves or our specialty, but for the purpose of preparing our students for the responsibilities of their chosen profession."

The interest of the American Association of Obstetricians and Gynecologists in the subject may be surmised from the fact that the society voted to send the address to the entire medical world and particularly to all the obstetricians and deans in the United States and Canada.

RADIUM IMPLANTATION IN ESOPHAGEAL CANCER

Joseph Muir, in *Laryngoscope*, 37:660, September, 1927, says: Cancer of the esophagus is generally regarded as the most hopelessly incurable of malignant lesions. None of the forms of treatment which have proved successful in combatting cancer elsewhere in the body have heretofore been possible of application to the esophagus. Radium has been even less beneficial than surgery. Three prime drawbacks to this use of radium have always existed; first, the difficulty of placing it accurately; second, the practical impossibility of maintaining it in position long enough to be effectual, and third, the great danger of burning the tissues, which will induce sloughing and fistula into the mediastinum—invariably a fatal accident.

To obviate these difficulties the author has elaborated a technique of radium implantation through a specially designed esophagoscope which can be readily carried out by anyone experienced in the use of this type of instrument. The field of operation is illuminated and an implanter passed through the tube, so that each radon seed may be placed in full view, and the entire lesion accurately mapped out and evenly implanted. The radioactive center employed is a removable platinum radon seed, which offers the double advantage of being so screened that it will not induce necrosis, and the possibility of removal by means of an attached thread so that no foreign bodies are left in the tissue after the contained radium emanation has entirely decayed. The entire procedure is facilitated if done under the fluoroscope, though this is not absolutely essential.

The results in the small series of cases so far treated by this method have been highly gratifying, and although no permanent results can be reported before the lapse of five years, the author feels that the method merits a wide trial, even if it proves to do no more than prolong lives which otherwise will be very shortly treminated.

SOME EARLY DAY PROFESSIONAL CONTACTS

The very first patient to call on me after I located in north Nebraska was a mental case, a jeweler, who was developing manic-depressive symptoms. This was entirely outside of my line of training and I fear I made a poor showing. This, however, made little difference for within a few days he was taken before the commission of insanity and committed to the state hospital where he died a few years ago.

Diphtheria was the dreaded scourge of the pioneer. The first fall (1882) there was an epidemic in the town and surrounding community. I was employed to care for several families and fortunately my first patients recovered. I thought I had some pretty severe cases, but they may not have been as severe as I thought they were, for I had never seen a case until called to these. My competitor had more cases and lost several. People at that time were changeable—as some are now. In desperation, on the theory that the new doctor could do no worse, several changed physicians. Now it is a well known fact that the most severe and, therefore, fatal cases are apt to be the first cases in an epidemic. This fact reacted in my favor, so that before I realized it, I was busy in the midst of an epidemic. I would not have the reader think that all the cases I attended, recovered; laryngeal diphtheria took its toll, as did nasal diphtheria. In those days it was proper to apply nitrate of silver to the tonsils and vault of the pharynx. Chlorate of potassium was the standard gargle and tincture of iron was given internally.

Tracheotomy was an operation done in laryngeal diphtheria. In case the patient failed to breathe when the windpipe was opened, one of the things recommended in extreme cases was to lay a handkerchief over the wound made, and, with your mouth suck the secretions from the larynx. I did that once and succeeded in getting the patient to breathe. Nowadays that would be considered suicidal folly, and one must admit that it is not pleasant to contemplate or to think back on.

In those days we had no quarantine laws and regulations and the public knew almost nothing about contagion and infection. It was the custom of the pioneers to go to the assistance of the sick neighbors. This may have been particularly true of the foreigners, but I suspect it was true of all. I do know that in the Eighties the Odd Fellows had a provision in their by-laws that members, listed alphabetically, were called in turn to "sit up" with sick members. Thus a person ill with typhoid and perhaps in delirium, had a different person "sit up" with him each succeeding night. A worse method of providing nursing care for the sick could hardly have been devised.

A young German farmer had shipped stock to the Omaha market, and returning, had brought some candy for his brother-in-law's children whom he found ill with diphtheria. Sitting on the bed, he gave them candy and kissed them. The next day he descended to the bottom of his well to clean it, perspired at his work, got chilled, and the next day felt ill and short of breath. After one or two days of home treatment I was called, found him with laryngeal diphtheria and *in extremis*. His aged father was present at the bedside. I took him outdoors, told him Herman was going to die and suggested that he talk to him about making a will if he so desired. The father had the commanding voice and mannerisms of the German autocrat. Approaching the bedside he blurted out: "Her-mann, the Docktor says you are going to die and that you better put your house in order", meaning thereby, make a will. Herman demurred, said he felt some better after the medicine given and asked me direct whether he might not get well. I told him the condition was very serious and that it would be a good thing to make a will anyway, even if he should recover. Whereupon it was agreed that he would make a will. Asked how he wanted to divide the estate he suggested that inasmuch as the wife would have the five boys to bring up, he would leave it all to her. The father brusquely demurred and suggested to the wife that she might get married again. On the instant the tigress within her was aroused and she exploded with the exclamation, "I, get married again? I get married again? Have I not had trouble enough in my married life? I get married again? Have I not had enough trouble with one man? I want no more man the rest of my life! Take your property and do with it what you please! I can make my own living and support the children besides! I have slaved here all these years and if it had not been for my work Herman would not have anything today"—and some things unprintable. The matter was finally settled by her agreeing that she and the children should share equally.

A messenger was dispatched to town to get a notary to draw up the will, but before he arrived it began to look as if he might not reach the bedside in time to get the will properly executed. I, therefore, took it upon myself to make a memorandum of the testator's wishes and had it signed and witnessed by the father and myself shortly before coma supervened, and this was afterward offered in probate court and admitted as the last will and testament.

Herman died during the afternoon, *and nine months afterward the widow married the hired man!*

DEATH OF LADY OSLER

Lady Osler died at Oxford, August 31st. She had not been well for several months but nevertheless her death had not been expected as she seemed to be steadily improving.

Sir William Osler's library which he left to McGill University at Montreal is now being packed for shipment, and the catalog of these books which has been the constant work of Dr. W. W. Francis, since Sir William's death, will be published early in the spring of 1929.

—Leroy Crummer.

EDITORIAL PARAGRAPHS

Digitalis first appeared in the London Pharmacopea in 1809.

An outbreak of pneumonic plague is reported from Manchuria.

Cocaine was introduced as an anaesthetic in eye surgery in 1884.

300,000 persons in Greece have recently suffered from the Dengue.

When oxygen was first discovered by Priestley in 1774, it was called "dephlogisticated air".

A warning has come from Bloedorn against the use of ephedrine in patient with cardiac lesions.

Dr. Samuel Fuller came over in the Mayflower and practiced in New England until his death in 1633.

Kansas is getting ready to launch a campaign for a basic science law during the next session of the legislature.

Colles' fracture is named after Abraham Colles (1773-1831) of Dublin, the leading Irish surgeon of his day.

The sphygmomanometer was first perfected and adapted for clinical purposes by von Basch of Vienna in 1876.

Dr. H. M. McClanahan's book, *Pediatrics from the Standpoint of the Family Physician,* is about to appear. See advertising pages.

The supreme court of New Jersey, in the case of Livesey has decided that a chiropractor has no right to give electrical treatments.

When the older men of the present profession studied medicine Stenson's duct was called Steno's duct and is so named by most of them today.

Accidents of all kinds caused 95,500 deaths in the United States during the past year. Twenty-five per cent of them were due to automobile accidents.

A recent number of the magazine *Science* again calls attention to the fact that the so-called "equinoctial storm" is a myth, a superstition unsubstantiated by any scientific fact.

Since 1912 Australia has paid a bonus of five pounds to every mother on the birth of a viable child. As much as 700,000 pounds has been paid out under this act in one year.

In an address before the Premedic Society at Lincoln, Dean J. J. Keegan of the University College of Medicine urged from three to four years of academic work preparatory to entering a medical college.

Fumigation as a method of terminal disinfection is no longer required by the State Board of Health; on the contrary it is discouraged. It has been well known for some years that fumigation was futile and a farce.

The Journal of the American Judicature Society, in an article, unearths a practice in vogue in New York City in which ambulance chasing attorneys, doctors and policemen are linked in a common graft of accident victims.

Hospital standardization is ideally a wonderfully fine thing; practically it is only within reach of the pauper and the wealthy—the great middle classes cannot afford it. Is not the trend toward state medicine accelerated by it?

The Gorgas Memorial Laboratory at Panama will be opened about November 1st, for research in tropical diseases. The Gorgas anniversary was celebrated October 3, at the headquarters of the American College of Surgeons in Chicago.

Kahn and Kahn have recently reported a series of cases of permanent injury to heart or aorta from one excessive muscular effort of the heart muscle, a condition well known by specialists to exist, but not of general knowledge to the profession.

An x-ray moving picture camera has been invented by the aid of which it is possible to see the knitting of a bone or the living, growing embryo of an egg. The invention comes from Berkeley, Calif., and is the work of Arthur C. Pillsbury.

A moron is not necessarily a criminal; a moron is a person with a mentality of a twelve year old child. A moron is practically incapable of planning a crime. The word is generally misused. So says the *Wisconsin Medical Journal* and we agree to the definition.

The private medical library of the late Dr. A. S. von Mansfelde of Ashland has become the property of the Lancaster County Medical Society. It consists of over a thousand bound volumes and a large collection of magazines. The collection weighed over five tons.

The science of botany dates from about the 16th century although Theophrastus, 300 years before Christ, wrote a "History of Plants" and described about 500 species used in the treatment of diseases. The elder Pliny described about a thousand plants, many of them famed for *medicinal virtues.*

The A. M. A. Chemical Laboratory has shown that the average cup of coffee contains approximately 1 3-4 grains of caffeine. Examining the so-called decaffeinated coffees, it was found that, whereas the producers claim from 90 to 97% of the caffeine is removed, it was proved that they contain approximately a grain of caffeine, to a cupful, after the decaffeinating process.

One of the foremost men of the profession in Iowa—a general practitioner, sent us the following comment on last month's leading editorial: Your editorial "The Limit of the General Practitioner's Work", takes very straight aim and strikes very close to the bull's-eye. How different in import and intent to the preachments of those who would relegate the family physician to the dim past and erect, in Washington or elsewhere a monument to his memory—horse, saddle, saddle bags, stately gentlemen, Prince Albert and everything. You said a great deal in your closing paragraph: "The general practitioner must look out for himself and for his clientele—no one will do it for him."

THE EYE SIGHT CONSERVATION*

The United States Public Health Service, with the cooperation of the Departments of Health and Education of the District of Columbia, has recently completed a thorough examination of the vision of 1,860 white school children in Washington between the ages of 6 to 16. There children were not a selected group and the conditions disclosed may be regarded as representative of those existing generally not only in Washington but in schools throughout the country.

This study, the significance and value of which cannot be over-estimated, was most thoroughly and scientifically carried out, and, according to the Eye Sight Conservation Council, Times Building, New York City, this investigation is the most thorough and complete study of the visual condition of a large group of school children ever conducted under such favorable conditions. The work was begun under Senior Surgeon Taliaferro Clark of the U. S. Public Health Service and was completed under the direction of Surgeon Grover A. Kempf, the examinations of the children being made in the school buildings of Washington by Assistant Surgeon Bernard L. Jarman and comprised both the simple visual test made with the test letters of varying sizes and also a thorough refraction of the eyes of each child with the accommodation of the eyes suspended which disclosed the total amount of existing defects.

The results of these thorough eye examinations of the 1,860 school children revealed the following condition: Only 3.4 per cent of the children were found with eyes free from refractive defects, the visual defect most frequently prevailing was far-sightedness (hyperopia) of which there was 63 per cent. Near-sightedness (myopia) affected 5.5 per cent, and astigmatism 28 per cent. This extremely large proportion with eye defects included all with slight errors not needing correction but the conclusions reached by the experts in the Public Health Service were that glasses were needed by 34 per cent of the entire group and that glasses were recommended for reading and studying for an additional 10 per cent.

An outstanding feature emphasized by this investigation is the fact that the simple visual acuity test reveals but a small percentage of the actual number of refractive errors in children. The reason for this is that the accommodation of the eye—that remarkable adaptability which enables the eye to focus instantly on objects at a distance or near by—is so strong in the young that it overcomes errors of refraction of the far-sighted (hyperopic) type. While the simple eye tests made with various sizes of letters "as conducted in the schools, are of much benefit, only the children who have marked visual defects are discovered; a great number are found to have normal vision and are so informed when in reality they are suffering with latent defects. Strains of varying amounts are present which may become worse as the child advances in its school course. The individual goes out into the commercial world much handicapped due to the effects of visual defects".

In this investigation the preliminary simple visual acuity test indicated that 34 per cent of the children had defective vision and 66 per cent had normal vision whereas with the accommodation suspended and thorough examinations made an extraordinary change was shown.

The group which had standard vision or better before accommodation was suspended showed an enormous drop when the accommodation was neutralized, and nearly one-fourth of those in this group dropped from standard vision to but 30 per cent vision or worse. A most astounding change was found as to the proportion showing very defective vision. Before the accommodation was neutralized 7% of the children were in the group having but 40% of standard vision or less but after accommodation was suspended this group increased from 7% to 43%. Many of the children with standard vision or approximately 75% of standard had but 20% of standard vision when the accommodation was suspended and the hidden defects disclosed indicating at what a burden of eyestrain and expense of nerve energy they were using their eyes.

The Eye Sight Conservation Council has repeatedly stressed the importance of thorough eye examinations for school children and while the vision chart test as conducted in schools is recommended as of material benefit, the Council has always cautioned against the assumption that eyes are free from strain or serious defects, just because vision may be normal.

From a nation-wide survey of the eyesight of school children in the United States made by the Eye Sight Conservation Council fully 25 per cent were indicated as having manifest defects of vision or symptoms of eyestrain as revealed by the simple visual acuity tests made in the schools. The conservativeness of this conclusion is substantiated by the study just completed of the children in Washington where the simple visual acuity test showed 34 per cent with defective vision. The statement frequently quoted that approximately 12 per cent represents the amount of defective vision found among school children in the United States is very misleading.

Among other important features brought out by this survey was the tendency of near-sightedness (myopia) to increase between the seventh and twelfth years which indicates the necessity for careful observation of the vision of school children between these ages to detect the existence of myopia before the condition advances. These tests in Washington show further that while myopia is nearly always discovered by the simple visual acuity test hyperopia or far-sightedness is frequently not detected, and usually only the severe types are revealed.

The factor of sex was considered to determine whether boys or girls are more prone to visual defects, but there was found no material difference in the sexes at any age for any type of refractive error.

The results of the survey emphasize the necessity for more attention being given to the eyes of school children so that defective eye conditions will be detected and stresses the importance of looking for defects in the supposedly normal eye, many eyes are working under a handicap that will entirely escape detection by the simple visual acuity test. It also stresses the need for annual eye examinations by an eye specialist of all children which are known to have defective eyes.

Parents and educators throughout the country should take to heart the startling condition disclosed by this thorough and valuable investigation and see to it that the children under their care are not contending with uncorrected eye defects.

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*Report of special study by U. S. Public Health Service of the vision of 1,860 school children.

Much of our education is gained through storing up knowledge by means of sight and the major portion of knowledge acquired by children is transmitted through the eye. If the eyes are defective, the child will be seriously handicapped in its acquirement of knowledge and in its development of memory, "for memory is almost entirely a gallery of stored photographs made by the eye".

A larger percentage of the defects of vision can be effectively detected and corrected with less expense and less difficulty than any other kind of physical defects; there is, therefore, less excuse for neglect of the eyes.

ATTENTION ALL AUXILIARY MEMBERS!

Do any of you want a free trip to Europe? If so, help the Nebraska Auxiliary get the first 1000 subscriptions to Hygeia. Any individual member can have this trip if she gets the most of the first 1000 subscriptions. Write your Nebraska State Hygeia Chairman, Mrs. E. A. Creighton, Red Cloud, Nebr., for particulars. Help Nebraska to win!

Mrs. E. A. Creighton, Hygeia Chairman.

THE OMAHA-DOUGLAS COUNTY AUXILIARY

The Woman's Auxiliary to the Omaha-Douglas County Medical Society met for luncheon at the Omaha Field Club on Wednesday, Oct. 12th. About seventy members and guests were present. Following the luncheon a musical program was given by Mrs. Fred Hill, soprano, and Mrs. Arthur Klopp, pianist. Mr. A. D. Falconer, a city commissioner, Dr. G. W. Dishong, Dr. Mason Lathrop and Dr. J. E. Summers, gave short addresses as to the needs of the new County Hospital and the Auxiliary pledged their support to the movement for a new Douglas County Hospital. Mrs. H. C. Sumney, the president of the Auxiliary presided at the meeting.

Mrs. H. C. Sumny addressed the members of the Ladies' Aid Society of the First Presbyterian church on Friday, Oct. 5th, upon the needs of a new county hospital in Douglas county and Mrs. Clarence Rubendall also addressed the members of the Ladies' Aid Society of the Westminster Presylbterian church upon the same subject on the same day.

The members of the board of the auxiliary to the Omaha-Douglas County Medical Society opened the activities of the annual Christmas seal sale for the Nebraska Tuberculosis Society by meeting in the association headquarters on Friday afternoon, Sept. 28th, and folding Christmas seals from 2 until 6 o'clock. Over a million seals were folded. Thirteen million of the seals must be folded, addressed, stamped and sealed before Thanksgiving day when they are mailed.

THE SOCIETIES

Regular meeting of the **Omaha Douglas County Medical Society,** October 9, 1928, 8:00 p. m., was called to order by President A. P. Overgaard.

Dr. J. M. Banister, Chairman of the Committee on Preventive Medicine, made a report on nutrition work done by Mrs. Langfeldt in the public schools of this city. It was moved and seconded that our society heartily endorse this work and so notify Mrs. Langfeldt.

Honorable Frank S. Howell, one of the judges of the Supreme Court of the state of Nebraska, spoke on "Some Phases of Medical Jurisprudence". This talk was exceedingly interesting as well as instructive and was thoroughly enjoyed by the rather large number in attendance.

The guest of the evening was Dr. Edgar J. Huenekens, of Minneapolis. Dr Huenekens spoke on "Focal Infection in Children", illustrating his remarks with a generous supply of lantern slides. He spoke with special reference to cleaning up the nose and throat and washing out the maxillary sinus in those cases of endocarditis, rheumatic fever, nephrosis, nephritis, asthma, malnutrition, secondary anemia, pyelitis, bronchiectasis, persistent rales, chorea, recurrent abdominal pain, indefinite rheumatic pain and purpura hemorrhagica which do not clear up under the ordinary methods of treatment. This paper was generously discussed by Drs. Clarke, McClanahan, Ross, Pierce, Lemere, Henske, and Hamilton.

The **Ninth Councilor District Medical Society** met at Kearney, October 9. The society featured a dinner at the Ft. Kearney Hotel, followed by toasts by Dr. R. D. Bryson, Calloway; Dr. B. R. McGrath, Grand Island, and Dr. C. H. Fox, Kearney. About sixty doctors attended. The list of papers on the scientific program follows:

Dr. C. H. Fox, Kearney, Showing a case of Congenital Glaucoma with a few remarks on same; Dr. E. E. Farnsworth, Grand Island, and Dr. Sawyer, Doniphan, "Overuse of Insulin"; Dr. J. M. Patton, Omaha, "Management of Acute Inflammations of the Eye"; Dr. C. A. Roeder, Omaha, "Goitre"; Dr. O. D. Johnson, Kearney, "Intussusception. Dr. Harry Hapeman, Minden, showed the Dr. Allen B. Kanavel moving picture of "Diagnosis and Treatment of Infections of the Hand".

The regular quarterly meeting of the **Saline County Medical Society** was held at Wilber, September 27. The following program was heard: "Sinusitis", J. C. Tucker, Beatrice; "Fractures", Dr. C. H. Arnold, Lincoln; "The Heart". Dr. J. C. Thompson, Lincoln; "An Interesting Clinical Case", Dr. R. C. Kirchman.

Dr. R. C. Kirchman succeeded Dr. H. W. Quirk as secretary, Dr. Quirk having moved to Novelty, Ohio. About fifteen were present.

The **Seventh Councilor District Medical Society** met at Milligan, October 18, under the presidency of Dr. V. V. Smrha of that place. Some thirty physicians were present. A dinner followed the afternoon session and the program was concluded in the evening.

The program follows:

"Urethral Caruncle", A. A. Conrad, M. D., Crete: "Diarrhoeas of the Aged—With Case Histories", F. A. Mountford, M. D., Davenport; "The Diagnosis and Treatment of Toxic Goiter", L. W. Rork, M. D., Hastings; "Brain Abscess", E. Kelley, M. D. and E. C. Henry, M. D., Omaha;"Pilots and Their Medical Examinations", C. W. Keith, M. D., Edgar, Medical Examiner of Aeronautics Branch of Dept. of Commerce, Washington, D. C.; "The Control of Contagious Diseases", P. H. Bartholemew, M. D., Lincoln, Bureau of Health; "Medical Education and the Country Doctor", F. A. Long, M. D., Madison.

Dr. Mountford related a protracted case found to be due to the Amoeba, successfully treated with emetine. Dr. Rork stressed the need of differentiating pseudohyperthyroidism, sometimes operated.

Dr. Henry said with some emphasis that the first dressing determines the outcome of cases of fracture of the skull; when infection reaches the brain the case is hopeless.

HUMAN INTEREST TALES

Dr. S. J. Walters, hailing from Omaha, has located at Ashton.

Dr. W. J. Reeder, Cedar Rapids, has gone to St. Louis for postgraduate work.

Dr. C. C. Kane, formerly of St. Louis, has become a part of the Slagle clinic, Alliance.

Dr. R. R. Ensor, Omaha, has returned from a month's visit at Atlantic coast points.

Dr. and Mrs. J. V. Hinchman, Blair, are spending the winter in the Soldier's Home at Burkett.

Dr. C. W. Parks, Syracuse, has been appointed assistant physician at the Hastings State Hospital.

The marriage of Dr. W. I. Hinkle, Portland, Maine, and Miss Fern Percival, Barada, Nebr., is reported.

Dr. and Mrs. Morris Nielsen, Blair, visited the Black Hills and other Dakota points in late summer.

Dr. C. D. Hustead, Aurora, visited the scenes of his boyhood in northeastern Missouri in September.

Dr. W. S. Yager, Nebraska City, has been appointed assistant physician at the Hastings State Hospital.

Dr. H. O. Gardner, formerly of Mt. Pleasant, Iowa, has become associated with Dr. A. E. Gadbois, Norfolk.

Dr. D. D. Stonecypher, Nebraska City, has been appointed physician to the Nebraska School for the Blind.

Dr. C. Longacre, formerly of Union, has located at Beaver Crossing, in succession to Dr. J. B. Williams.

Dr. A. E. Cook and Dr. Stuart Cook (son), Randolph, have become associated in the practice of medicine.

Dr. F. A. Lamar and wife, Humphrey, motored to The American Legion convention at San Antonio, last month.

Dr. A. P. Fitzsimmons, Tecumseh, attended the thirtieth anniversary of the Spanish-American war at Havana, in October.

Dr. P. H. Bartholomew of the public health service, Lincoln, spoke at the Teachers' College, Kearney, on public hygiene, October 8.

Dr. Ole Grothan, St. Paul, Nebr., who was a surgeon in the Spanish-American war, attended the reunion at Havana last month.

Dr. and Mrs. R. G. Rich, David City, motored to Colorado and then to San Antonio to attend the American Legion convention.

Dr. L. C. Knight from Chicago, has become associated with Dr. W. L. Dayton, Lincoln, in the practice of the eye, ear, nose and throat specialty.

The marriage of Dr. Norman Haverly, lieutenant commander medical corps U. S. Navy, and Miss Katharine Lentz, Omaha, occurred a few days ago.

Dr. Chas. M. Swab, Omaha, spent a part of the summer in Denver, doing special work on the eye at the University of Colorado School of Medicine.

Association in practice on Wednesdays is the unique business and professional arrangement made between Dr. Paxton of Paxton and Dr. Russell of Sutherland.

Dr. L. H. Lee, formerly of Seward, now of Los Angeles, visited Nebraska on a business mission recently. He is an assistant medical examiner for the Pacific Mutual Life Ins. Co.

Dr. Charles Coffin, Winter Park, Florida, a physician at North Loup in the Nineties and a pioneer of the North Loup valley of the early Eighties, visited the haunts of pioneer days in October.

The marriage of Dr. David Doty, Denver, and Miss Alice O'Brien, Ft. Collins, Colorado, is announced. Dr. Doty is a son of Dr. and Mrs. C. W. Doty, Beaver Crossing, and is in practice in Denver.

A conditional reinstatement of his license to practice medicine, has been granted to Dr. W. F. Race, formerly of Havelock, now of Omaha. The license had been revoked on account of habitual drunkenness.

BOOKS RECEIVED

CLINICAL GYNECOLOGY & OBSTETRICS by Rae Thornton La Vake, A. B., M. D., F. A. C. S. Cloth, 263 pages, illustrated. Price $4.00. The C. V. Mosby Company. 1928.

SYPHILIS by Henry H. Hazen, A. M., M. D. Cloth, 631 pages with 165 illustrations including 16 figures in colors. Price $10.00. The C. V. Mosby Company. 1928

CALCIUM THERAPY by John Aulde, M. D. Cloth, 405 pages. Philadelphia, John Aulde, M. D. 1928.

THE TREATMENT OF DIABETES MELLITUS by Elliott P. Joslin, M. D. (Harvard), M. A. (Yale). Fourth edition, enlarged, revised and rewritten. Cloth, 976 pages, illustrated. Lea & Febiger, Philadelphia, 1928.

MODERN METHODS OF TREATMENT by Logan Clendening, M. D. Second Edition. Cloth, 790 pages. Price $10.00. The C. V. Mosby Company, 1928.

OPERATIVE SURGERY by J. Shelton Horsley, M. D., F. A. C. S. Cloth, 876 pages with 756 Original Illustrations. Third Edition. Price $15.00. The C. V. Mosby Company, 1928.

THE DUODENUM by Pierre Duval, Jean Charles Roux & Henri Beclere of the Surgical Clinic, Faculty of Medicine, Paris. Cloth, 205 pages illustrated. Price $5.00. The C. V. Mosby Company, 1928.

FOLKLORE OF THE TEETH by Leo Kanner, M. D. Cloth, 297 pages illustrated. Price $4.00. The Macmillan Company, New York, 1928.

BACTERIOLOGY FOR NURSES by Charles F. Carter, B. S., M. D. Cloth, 201 pages, illustrated. Price $2.25. The C. V. Mosby Company, St. Louis. 1928.

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE by Percy Hall, M. R. C. S. (Eng.), L. R. C. P. (Lond.) Cloth. 230 pages, illustrated. Price $4.50. The C. V. Mosby Company, St. Louis. 1928.

BLOOD AND URINE CHEMISTRY by R. B. H. Gradwohl, M. D., and Ida E. Gradwohl, A. B. 526 pages with 117 illustrations and 4 color plates. Cloth. Price $10.00. The C. V. Mosby Company, St. Louis, 1928.

RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE by W. McKim Marriott, B. S., M. D. Cloth. 138 pages illustrated. Price $2.50. The C. V. Mosby Company, St. Louis, 1928.

SYPHILIS by Charles C. Dennie, B. S. M. D. Cloth. 304 pages. Price $2.50. Harper & Brothers Publishers, New York and London. 1928.

DIABETIC MANUAL FOR PATIENTS by Henry J. John, M. A., M. D., F. A. C. P., Maj. M. R. C. Cloth. 196 pages, illustrated. Price $2.00. The C. V. Mosby Company, St. Louis. 1928.

STEDMAN'S MEDICAL DICTIONARY by Thomas Lathrop Stedman, A. M., M. D. Cloth. 1194 pages, illustrated. Price $7.50. Messrs. William Wood & Company, 156 Fifth Avenue, New York. 1928.

PERPETUATION OF ERROR IN DERMATOLOGY

Difficult as it was in the beginning for a man to become a competent dermatologist, these difficulties are now manifestly many times increased by reason of the broader concept and by virtue of the fact that, to appreciate properly and to be able to continue the advances, the dermatologic neophyte must be a man well schooled in the fundamental sciences, and with a good medical background. Udo J. Wile, Ann Arbor, Mich. (*Journal A. M. A.*, July 28, 1928), has been impressed with two factors that militate against progress and independent thought among young practitioners. The first of these factors is a trustful adherence to tradition and a placid acceptance of facts that come to us from those we recognize as authority. The second obstacle to progress is a less pardonable fault, and consists in a certain laxness in scanning the literature, resulting in faulty translation and occasionally in gross misquotation. These factors frequently lead to the needless perpetuation of an erroneous concept regarding the nature of a disease, and stand in the way of the elucidation of its true nature. In a field changing with such kaleidoscopic rapidity as that of the practice of medicine, uncritical adherence to tradition and precedent is a dangerous staff to lean on; particularly that adherence to tradition which leads to the establishment of inflexible dogmatism in treatment, and to rigid criteria of diagnosis. How frequently does the young dermatologist restrained in his judgment by tradition, fail to recognize a disease in a child which his text book says is limited to adults. How frequently is a cutaneous disease, otherwise easily recognizable, made difficult to diagnose by the appearance of like lesions in the mucous membranes, or in places where it is said they do not occur. The literature is full of cases recorded as rare or unclassified, which are merely variants of the general rule, and which the inflexibility of our diagnostic criteria fails to permit us to classify. It is perhaps only natural for the beginner in dermatology to look to the names of those who have contributed to his special field as sources of unlimited wisdom, and as incapable of incorrect thinking. A mistake or a scientific untruth, in no sense dishonest, becomes increasingly dangerous in proportion to the scientific reputation of its perpetrator. During the past year the author has come across three interesting examples of the perpetuation of error which are due solely to the prestige and authority and, indeed, the scientific achievements and contributions toward truth of those who made these errors. The reporting of a single case of angioma of the scrotum by competent authority as angiokeratoma has led to an entire misconception of the latter condition, and to the faulty inclusion of what is almost a normal process with a rare and unique disease. A second interesting example of the perpetuation of error is the acceptance of an existing hypercholesterolemia as the cause of xanthomatous lesions. A third misconception, although not wholly, through blind devotion to precedent and traditions, is in the acceptance of that much mooted entity, the so-called pityriasis rubra. One attribute which characterizes the competent student of cutaneous medicine, and might be placed as foremost in his mental equipment, is a discerning and observant eye. A proper background, therefore, desirable in the equipment of the dermatologist of today would seem to be a good workable knowledge of physics and chemistry, as they apply to therapeutic measures, a substantial background of internal medicine, and an eye which, if not naturally discerning, can readily be educated to the fine differences on which differential diagnosis in cutaneous medicine depend. Together with this, of course, must be the ability of the dermatologist to correlate his knowledge and his clinical observations. To this Wile adds that the novitiate in dermatology could very profitably have what might be called a degree of healthy skepticism for the explanation of conditions that are not already scientifically proved. Armed with a desire to learn and a disinclination to accept any but proved facts, the beginner in dermatology will find himself best equipped to enter our special field freed from the shackles of precedent and least hampered by traditional error.

DIATHERMY IN PNEUMONIA

The use of diathermy in pneumonia was studied by Carl A. L. Binger and Ronald V. Christie, New York (*Journal A. M. A.,* Aug. 11, 1928). Their experiments point to the efficiency of the pulmonary circulation in cooling the normal lung and in preventing any considerable degree of local heating. It appears that the lungs represent an excellent water cooled system rather than an air cooled one, and that an intact pulmonary circulation prevents any considerable degree of local heating by the diathermy current. The next step in this study was to inquire whether the interference with the pulmonary circulation in pneumonia was sufficient to permit local heating. In none of the three patients studied was there an appreciable rise in lung temperature, as compared with the rectal temperature. The statement is frequently made that cyanosis disappears, or at least becomes less pronounced, after treatment by diathermy. The disappearance of cyanosis is so commonly reported by those who use diathermy in pneumonia that one may for the moment assume it to be true. An examination of the oxygen saturation of the arterial blood should give some hint as to the cause of the improvement in color. Binger and Christie have in two instances done arterial punctures before and after diathermy, and have analyzed the arterial blood for its oxygen content and capacity. In one case the percentage saturation rose from 70.3 to 73.4; in the other, from 81.2 to 82.3. Neither of these changes can be regarded as significant, as they are both probably within the physiologic variations occurring during pneumonia.

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CIRCULATORY DISORDERS—A CLINIC*

A. D. DUNN, M. D.,
Omaha, Nebr.

The case that has been given me to present this morning belongs to the day's work of every physician whether he be general practitioner or specialist.

The patient is a male, age fifty-seven, married but without children. The family and the past histories are negative except that he had typhoid at seventeen, and rheumatism fifteen years ago which kept him in bed three weeks. Although it was pronounced sciatica, he had swelling of the ankle joints at that time. There is also a history of indolent tonsil infection. There was no acute attack of sore throat at the time of the rheumatism. However, he tells us that quite occasionally he has had an uncomfortable feeling in the submaxillary region.

His occupation is a barber. He uses alcohol moderately but very little tobacco. He has been a hard worker—very active, energetic and ambitious. He has gone twenty-seven years without any vacation and without any particular amount of play. He is of the athletic type and was a sprinter in his younger days.

The onset of his trouble has been more or less insidious. Two years ago it was noted that he had high blood pressure. For the last two years he has been tiring more easily and has not felt up to his usual self.

His present illness was somewhat obscure at the onset. It began the latter part of February. On one of the warm days of that month he went out to the Republican river fishing. He tramped around and became very tired. When he got back to his car he was all in. He felt that a large "slug" of whiskey might have solved his problem, but he did not have it. He became chilly and his left chest felt heavy. He could not throw off this sensation of fatigue and oppression. He coughed a great deal, raising thin, frothy sputum. One night he was exceedingly short of breath, coughed excessively and raised a great deal of frothy sputum. He thought he had the grippe but there was no history of fever, of aching all over the body, of sore throat, or of any upper respiratory infection. The trouble was confined to the chest.

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*Presented before the annual meeting, Nebraska State Medical Association, Hastings, May 11-13, 1928.

March 18th he had a sudden attack which came on early in the morning while still in bed. He had to sit up to get his breath. "Something had gone wrong with the intake". He went to the window, then outdoors. The only place he seemed able to breathe was between two houses where there was a stiff wind blowing. He was in the snow in his pajamas when the doctor arrived. His heart was running rapidly and his blood pressure was 220. He was spitting up quantities of thin frothy sputum.

He was given digitalis, morphine and nitroglycerin. He was in bed ten days at that time. He had no actual pain—nothing but distress and oppression in the chest. His feet were not swollen. The trouble was obviously an acute pulmonary edema.

There has been some loss of weight—seventeen pounds. His sleep has been bad. Last night he slept very little. He was arranging for some sort of banquet and was excited over the examination given him yesterday afternoon.

His systolic blood pressure was 220 at the time of the attack. As compensation was restored, the pressure went as high as 270 systolic, 145 diastolic; since then it has dropped to 220 systolic, 120 diastolic. Under excitement it was 250 systolic and 145 diastolic.

His chief complaints at the present time are weakness, shortness of breath in climbing stairs, loss of weight, and nervousness. No gastro-intestinal, genito-urinary, or central nervous system symptoms. The urine examination was negative, except for a few casts. The Wassermann was negative.

On examination we noted that there are signs of arterial disturbance at the crossings of the retinal veins and arteries. The arteries are somewhat beady. There are definitely palpable, ropy temporal and facial arteries. No enlargement of the thyroid is demonstrable and symptoms indicative of a thyrotoxicosis are not present. The apex lies in the fifth interspace about ten and one-half centimeters to the left of the median line. The right border is four centimeters from the mid-sternal line. There is a marked degree of cardiac enlargement. The first sound at the apex is booming. The aortic second is bell-like and well transmitted toward the neck. The pulmonary second sound is normal. The general examination otherwise is negative. No edema of the lungs, liver a little large but not tender, spleen not large.

Our patient will serve as a text for a short discussion of hypertension. His blood pressure has been consistently high over a considerable period of time. I wish to emphasize the importance of a high blood pressure being present over a period of time. It would seem necessary to emphasize this point because unduly alarmed patients come to us with a diagnosis of a hypertension based on single blood pressure readings. This mistake is made not only in the provinces, but also in our largest clinics. I am not mentioning this to criticize but to emphasize the importance of repeated blood pressure readings before making a diagnosis of hypertension.

The differential diagnosis in our case involves three conditions. One is toxic adenoma of the thyroid. In spite of an awareness that this differential must be made, one occasionally makes the mistake, for often the diagnosis is not easy. We have under observation a patient who has had a systolic blood pressure varying from 120 to 200. The diastolic has been 90. A considerable amount of tremor has been present but ocular symptoms have been wanting. Repeated basal metabolic readings have varied from minus 4 to plus 25. At least a dozen readings have been made. Day before yesterday I could outline a definite adenoma for the first time. I am certain it is back of the bizarre symptoms which this patient has presented.

Chronic interstitial nephritis should be differentiated—that is the obvious case in which the kidney lesion predominates. We do not know that chronic interstitial nephritis and essential hypertension are not variants of the same disease. If the essential hypertension patient lives long enough and does not succumb to cardiac failure or other accident, he will probably develop the terminal picture of chronic interstitial nephritis. Essential hypertension cases, however, have been known to live thirty-five years without developing nephritis. My cases that have gone fifteen to twenty years have all shown marked urinary findings at times.

A search into the etiology of cases of this kind is important that we may learn how trouble may be avoided or postponed. It has been well said that the only uncontrollable etiological factor in essential hypertension is age. Cardio-vascular disease has a way of running in families. One of the corollaries of that proposition is that individuals known to have a bad vascular heredity should be particularly careful in the kind of life they choose, in their exposure to infections, and in their care of infections. The relation of infection to essential hypertension is a moot subject. To be sure, we have essential hypertensions where no infections are revealed either by examination or by history. In my opinion infections should be considered in essential hypertension from two standpoints. First, on the theoretical basis that *they may possibly have something to do with the etiology* of the condition. Recent work showing the widespread vascular lesions in rheumatic infections may possibly be of some interest in considering the causes of essential hypertension. Furthermore, widespread vascular lesions of one kind and another do occur in the peripheral arteries, as demonstrated by Keith, in cases of essential hypertension. Thayer many years ago demonstrated that the incidence of arterial change for a given age was much greater in cases that gave a history of typhoid fever than those who did not. That the removal of foci of infection will influence to any great degree the clinical course of hypertension cases is questionable. Second, the removal of foci of infection in essential hypertension should be done, largely in order to remove a possible unnecessary load, or to diminish the chance of toxic or infectious myocarditis.

There is one type of case with hypertension in which the blood pressure is not particularly high, in which the urinary symptoms are marked, and in which there is a considerable albuminuria with casts. In such cases improvement that is worth while may occasionally be obtained by removal of infections of a focal nature. Such cases should be spoken of as early nephritis with hypertension.

In the few minutes left, I shall say a few words in regard to treatment. The general plan of treatment is known to most physicians. However, the saying of Emerson (quoted by Dr. Herrick) is pertinent here: "It is not the facts that import, but the effect they have on the minds of men". When asked the treatment for hypertension we all say "Rest". How rest is to be applied—the degree of rest—the determination of what constitutes rest for the patient in question give a broad interpretation of the term rest. One of the worst things one can do to a patient with hypertension is to remove completely all occupation. I do not know anything more pitiful than to see a case of cardio-vascular-renal disease thresh itself to pieces in the unhappiness that comes from removal of all interest in life. Rest in bed is essential in the acute crises—relative rest, part-day work, extra hours in bed, extra noon hours, vacations, play—all these must be utilized in their place in the handling of these cases. Just as in the cases presented by Dr. Pinney, individualism is necessary. We must fight against standardization. You cannot treat a case of hypertension by standardized methods. It is a question of the technique and finesse of the individual physician handling an individual problem. It is John Smith who has hypertension, *who* is to be treated and not John Smith's hypertension *that* is to be treated.

We might say a word in regard to the relationships of consultants and the unfortunate patient who falls between his consultant and his family physician. We frequently are called upon to examine cases of hypertension and to give them advice. Our work may be of some value. We talk to the patient about rest, diet, and play, and write our findings and suggestions to the family physician. A consultant cannot handle this type of case at a distance. The managing physician must have contact with the individual patient and know his surroundings and his problems. He must go into the home and see what it is: what it gives to the patient and what it takes out of him. He must see how the patient can be made to play and how he may avoid the trials of his every-day life. The treatment of the problem must be solved in its details by the man on the ground. The consultant can determine the degree of the trouble: use his technical knowledge in discovering infections, and determining whether such infections should be removed. He can determine cardiac conditions in a way by history, physical examination, electrocardiograms, etc. He can determine whether the individual should be cut down on protein or allowed to go on an average diet. But the real care of the individual must come into the hands of the one who knows the individual as a personality and who knows the condition under which the patient lives.

There has been a great deal said about diets in essential hypertension. Everything has been advocated from the salt-free diet to one without meat and little other protein. In other words, we try to standardize. What reason is there for depriving a hypertension patient of meat protein and filling him up on milk proteins? Why give a man four quarts of milk carrying at least 150 grams of protein, and not give him a little meat, when he likes meat and detests milk? Why should we not give a man with a perfectly normal or subnormal blood urea nitrogen a choice of the protein he likes? Why should such a patient be restricted to two-thirds gram of protein per kilogram of body weight? Why deprive him as a routine of sodium chlorides? It is a moot question whether or not chlorides have much to do with hypertension. Salt in moderation should be permissible unless some definite reason is present for eliminating it. Sodium chloride may even aid in getting water out of the cell instead of putting it in. We have not looked deeply into the cell and do not know the reason the cell takes up water. The same thing that makes the cell hold water may make it retain salt. The problem has more to it than a little bit of sodium chloride.

The value of nitrites may be determined by putting the patient at rest a number of days, getting a constant blood pressure. It is of no use to use nitrites if they have no effect on the pressure.

I want to mention the value of bromides in the handling of these patients. The patient under discussion could probably be benefited by a limited quantity of bromide so that some of the stimuli from the outside do not register themselves so intensely on the man's nervous system.

Prognosis: It is difficult to forecast the future in cases of hypertension. High blood pressure is not an unmixed evil. It is essential in many instances to maintain a circulation. The prognosis must be arrived at indirectly by finding how the patient reacts to his environment, by the condition of arteries and kidneys, by the heart muscle efficiency, etc. Unfortunately, we have not any direct way of measuring heart function. The prognosis of hypertension is determined largely by cardiac efficiency. The blood pressure merely tells us the "voltage" in the system. It tells us nothing about the flow. If we had some way of measuring blood flow in "kilowatt hours" we might get some idea of the efficiency of the cardiovascular system as a unit.

DISCUSSION

WILBER E. POST, M. D., (Chicago, Ill.): There are just three things about hypertension which I may take occasion to mention again, which have already been touched upon by Dr. Dunn. One is that in these essential hypertensions I have found a group in whom there was severe infection in infancy. I think the greatest number of those infections were prolonged dysenteries. So severe was the organism that there was shown in later developments a partial invalidism, or that condition that borders almost upon Profichet's syndrome.

Second, by far the most brilliant results in actual improvement in hypertension in which there is no hereditary or no infectious history I have found in those who over eat. One woman had a blood pressure of 245 over a period of months. She went on a vacation to get rest and fresh air and sunshine, and returned in worse condition. She said: "What shall I do next? I have done everything you have asked me to do in the way of wholesome, well balanced, moderate diet, and rest and sleep."

She was developing a definite retinitis. I said: "You had better go to the hospital." We put her on a diet at the hospital without sweets.

She said: "I did not know you meant this."

Her son-in-law apparently was a fond son-in-law and brought her boxes of candy almost every day. With the elimination of the sweets and the reduction in quantity of food, within two weeks her blood pressure dropped to 165. I think she will live ten years yet, with a moderately increased blood pressure around 150 to 170.

Another thing about the diet that speaks for the individualism which fortunately seems to be emphasized here: Away back in 1908, Longcope did some work on repeated anaphylaxes with egg white, reproducing in animals conditions that indicated sclerosis and fibrous proliferation by the blood vessels. It has seemed to me that as our study of anaphylaxis—or sensitixation to various proteins—has progressed, that we might as well take some pains to inquire of the patient whether he seems toxic after meats or after milk. I think much more often after milk and eggs than by eating of meat does he get these toxic reactions.

If one has the means of skin sensitizations, I think those help. In spite of their results, we should listen to the clinical experience of the patient regarding his sensitization to various foods. That is individualism for which there can be no general rule laid down that will apply to all these patients.

Regarding arthritis, I was very much impressed when Dr. Sachs mentioned these patients demonstrated they had their tonsils and teeth removed, and in some there was some benefit for the time. But still those processes in the joint went on, of course, because there is actual infection there, at some stage. In any case where the progress of the disease continues—the active infection continues—I believe we can get an actual culture of the organism out of those tissues. Of course you will not take those organisms out by taking out teeth and tonsils.

Our problem is to treat the infected tissue which is very poorly supplied with blood and nutrition. If it is tuberculosis, you talk about R———— of Switzerland and his sunshine treatment, or the colonies in Buffalo or Arizona, and children with tuberculosis of the bone who begin to show improvement as soon as tanned from head to foot. In the last few years, the greatest benefit that has been derived, aside from the usual program of removal of foci of infection and hydrotherapy and massage properly applied, has been the exposure of these patients to sunshine. I think the time is coming when we will realize sunshine is not only helpful to patients with tuberculosis, but to those with other chronic infections as well.

I thank you very much.

RODNEY W. BLISS, M. D., (Omaha): As to Dr. Dunn's remarks on hypertension, I think his comments on treatment were very excellent indeed. In fact, both he and Dr. Pinney have talked about individualism in medicine. That is certainly true in the treatment of this thing we call "essential"—because it is unknown—hypertension. I think Dr. Dunn struck the nail on the head when he said we must treat the patient, John Jones, and not treat the hypertension which John Jones has. The most important thing is the treatment of that individual is his psychosis—his mental reaction to his disease. He may go years if he only can be put in the proper frame of mind to carry what he has. Because we do know in spite of the removal of focal infections, in spite of change of occupation, in spite of retirement, his hypertension is going to go on and on. He is going to have to learn to live with it. It is up to the doctor to help him live with his condition.

I think that rest—systematic rest—the rest of the individual's body as well as the rest of his mind—is the all-essential thing. I do think week ends in bed for these hypertensions, or perhaps every other week end in bed, will add years to their lives. I do not believe they should be too greatly limited as far as their exercise is concerned, because we must look at the heart, and the heart is a muscle the same as the biceps, and continuous rest is a bad thing rather than a good thing. I believe the moderate hypertension can indulge in a game of golf if his psychic is right. If it is wrong, and he loses his temper and his pressure goes up fifty pounds when the ball goes into the lake, it is a bad thing for him. Walking, whether with or without a golf club, is good. Fresh air—heliotherapy is the best possible way, and that is sunshine—adds much. If exercise and rest are properly balanced, many can live years with something we are not going to cure.

THE WORLD'S NEED TODAY

A little more kindness and
A little less creed;
A little more giving and
A little less greed;
A little more smiles and
A little less frown;
A little less kicking a man
When he's down;
A little more We and
A little less I;
A little more laugh and
A little less sigh;
A little more flowers
On the pathway of life,
And fewer on graves
At the end of the strife.
—H. G. Huber.

EXPERIENCES WITH MALARIAL THERAPY OF PARESIS*

G. ALEXANDER YOUNG, M. D.,
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My object in bringing the subject of malarial therapy of paresis before you, is not so much the describing of the treatment but to give an account of some of the practical results obtained by this method which I have been using for the past two and a half years.

In January, 1927, I reported to the Douglas County Medical Society twenty-six unselected cases of paresis that had been given malaria, giving results of the treatment as then observed after a period of from one to fifteen months, subsequent to the malarial inoculation. Since then, I have records of some twenty-five cases of paresis similarly treated. At this time I am reporting upon the subsequent behavior of the twenty-six cases seen prior to 1927 and adding thereto my present impression of the treatment.

In 1917, Wagner Von Juaregg began to treat paresis by the inoculation of malaria. He was led to do this by the observation that paretic patients, who developed, intercurrently, an acute febrile disease, often developed a striking and lasting remission. In that year, he inoculated nine cases of paresis, and of this nine, six of recent onset developed complete remissions. Three of this six were known to be well and at work in 1922. Up to 1922, he had inoculated two hundred cases of which fifty showed a return to normal.

Since, a number of European and American authorities have reported a large number of cases with a percentage of complete remissions that range from 25% to 65% or an average of about 35-40%.

Complete remission means return of normal mental faculties and ability to resume a gainful occupation.

In October, 1925, through the kindness of Dr. F. G. Ebaugh of the Colorado Psychopathic Hospital, I was able to secure a strain of tertian malaria by sending a paretic to Denver for inoculation. This strain has been kept alive by repeated reinoculations in my private practice and through the cooperation of the Norfolk State Hospital, Douglas County Hospital and the University Hospital venereal clinic.

The inoculation is made by the intravenous injection of 2 cc of blood withdrawn from the veins of a patient whose blood contains active plasmodia of the tertian type. Our patients in most cases have had a double tertian infection, giving daily chills. Intramuscular injections may be made of 5-10 cc of blood, but the incubation period then is about three weeks instead of the three to seven days as via the intravenous route. The patient is then placed in bed during the febrile stage and his condition carefully watched. He is allowed to have from eight to sixteen chills and the infection then terminated by giving him seven grains of quinine sulphate, t. i. d. for three days and then once daily for a week.

There has been no difficulty in stopping the infection, the chills in most cases ceasing after the first day's medication. No other medication is necessary, although iron and arsenic are often employed because of the marked anaemia and weakness due to the malarial red cell destruction.

In the cases reacting favorably to the inoculation, the patient begins to gain weight rapidly, the appearance changes to one of alertness and vigor, and often, a month's time will show a most surprising transformation of the clinical picture. In other patients, the improvement is delayed and may not reach its culmination until six months or even longer have lapsed.

The question of supplementary treatment by salvarsan, tryparsemide or bismuth has not as yet been fully worked out. Immediate supplemental treatment in some patients seems to have done harm. Kirby, of the New York State Psychiatric Institute, in a series of one hundred cases reports that his results in those patients who have had no supplemental treatment compare favorably with those who had continued specific treatment, thereby agreeing with numerous European authors. O'Leary, of the Mayo Clinic, suggests the use of arsenicals and bismuth beginning three or four months after the cessation of chills.

It may be well to note the prognosis of paresis as given by Kraepelin in his work on Psychiatry, published in 1910 and which represents fairly the opinion of all psychiatrists prior to the introduction of malarial therapy or the use of tryparsemide. Kraepelin quotes various authors as noting more or less pronounced spontaneous remissions of 1%-16% of cases. He states the outcome of the disease is regularly fatal. Of two hundred forty-four cases watched throughout the course of the illness fifty-one died in the first year, sixty-three in the second, fifty-two in the third, forty-one in the fourth, twenty-two in the fifth, four in the sixth, five in the seventh, two in the eighth, two in the ninth, one in the tenth, one in the fourteenth; all but fifteen ending fatally within five years from the date of onset. The remissions, when present, were usually temporary. He also states that they were most frequent in the agitated and expansive forms and rarely observed in the depressed and demented types.

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*Presented before the Nebraska State Medical Association, annual meeting, Hastings, May 11-13, 1928.

Against this gloomy prospect we may set the record of malarial treatment in giving us a percentage record of complete remissions in all types of cases of about 30 to 40%. Selecting only taboparetics, the expansive or grandiose type and the manic or agitated type we would confidently expect a much higher remission rate particularly if the cases are recent. Hermann of the University Psychiatric Clinic of Prague enthusiastically states that we may expect a 100% of recoveries in recent cases. This, of course, is too optimistic a view point, for as Kirby puts it, it is hard to tell always when the paretic process begins. I have in mind two cases of cerebrospinal lues who have shown strong four plus blood and spinal fluid Wassermann, with paretic gold colloidal curves for over a year who have shown no mental symptoms and are actively at work.

In the report of January, 1927, I noted the results in twenty-six cases of paresis treated by malaria that I had personally observed. The cases were divided according to results into four classes: First, full remissions, indicating return of average mental capacity, normal insight and ability to resume previous occupation; second, marked improvement showing ability to leave hospital, normal insight but inability to resume full work. Some of these patients were doing partial work and all were capable of making a fair social adaptation; third, moderate improvement, which contained the cases of physical and mental gain but which still required institutional life; fourth, that of no improvement or progressive deterioration leading to death. Cases of uncertain classification are put in the lower class and marked plus.

Of the twenty-six cases of paresis, there were nine cases of full remission of 34.6%; six cases or 23% of marked improvement, six cases or 23% of moderate improvement, and five cases of no improvement of which one case died about six weeks after the malaria of bronchopneumonia. The total of classes one and two makes 57% of these otherwise almost hopeless cases that had resumed work or home life.

An instance of full remission was the case of our first inoculation, a salesman aged 40, married, two children, who had been irritable and forgetful for a year and shortly before consultation had developed grandiose ideas of buying a fleet of Packard cars to conduct a nation wide sales campaign. He showed Argyll-Robertson pupils, glossolabial tremor, dysarthria, exaggerated knee jerks and absent ankle jerks. His blood Wassermann was four plus, his spinal fluid was four plus and contained ninety cells, 175 mgs. of total proteid, and gave a paretic Lange curve. His mental examination showed marked sensorium changes in that he had a loss of memory with failure to retain more than five digits and an inability to carry out simple calculations. During the treatment he had nineteen chills, deteriorated during the course of the chills and showed loss of weight and a marked anaemia. He was inoculated the latter part of October, 1925. By January 12, 1926, he had gained twenty-five pounds in weight, was alert and active and could retain six digits. Calculation in mental arithmetic showed marked improvement. By May first, 1926, he could retain seven digits and could calculate with normal precision and had returned to work. He remains at work in apparently normal health clinically. His dysarthria and glossolabial tremor have entirely disappeared. His last spinal fluid examination in March, 1926, showed normal cell count, blood Wassermann four plus, spinal fluid Wassermann four plus, Lange curve of 4455543221. He has had some intravenous salvarsan and bismuth injections in his home town during the past year. He is now at work though I have not seen him for a year.

As emphasized by Kirby, we find that the factors that seem to influence favorably the outcome of treatment are: first, the type of case, the expansive and manic cases giving the best results; second, the stage of development, the earlier the case is treated, the better the results; and third, the capacity of the patient to develop a high fever and to gain weight rapidly after the cessation of the chills. It has been noted that the cases that did not run a high temperature ranging from 103° to 106° did not show the gain in weight and mental alertness that was evinced by the favorable cases.

With reference to cases of cerebrospinal lues of which we have treated a number, we find in about the same proportion the marked benefit to the general health and a gradual improvement in their serology. The most striking effect is with the lightning pains and visceral crises of tabes. I have come to look at the malarial treatment as most helpful for these most distressing conditions. This also is in accord with the findings at the Mayo Clinic. One must not expect here, nor in paresis, a restoration of destroyed brain or spinal cord neurones. It is the dysfunction of damaged or toxic nerve parenchyma that is corrected by the process that is set in motion by the malarial infection. What that process is, is not as yet known and the subject is too broad to discuss at this time.

The effect of malarial inoculation upon the serologic reactions has not as yet been fully worked out. It has been universally recognized that clinical improvement is not accompanied by a correspondingly marked change in the reaction of the spinal fluid. A complete resmission may be in force with no change in the four plus Wassermann reaction and the paretic gold curve. Nevertheless, I have found that a prompt reduction of the cell count and total proteid occurs in cases where remissions develop and where this reduction of cell count and proteid do not occur, the prognosis is not as good. Again, it has been noticed in our cases that a tendency exists to a slow improvement in the spinal fluid Wassermann and gold curve.

Bunker of the New York Psychiatric Institute in a detailed study of this question has recently expressed the same view in the March number of the Archives of Neurology and Psychiatry of this year.

Of our nine cases of full remission two cases now show slight mental defect but are still working and are under treatment. Of the others, five are known to be working and in good mental health, and two of the nine are no longer available for observation.

Of the six patients in class two, patients with defect but capable of social adjustment at home, one has been committed to a state institution and one is now so much improved that he may be shifted to class one. There has been no change in the cases of classes three and four except that of moderate mental improvement in a few cases along with marked physical improvement.

A short synopsis of five of the class one cases follows:

1. J. S., male, age 35, when first examined on May 13, 1926, presented the following findings. Grandiose delusions with expansive mood, restlessness and marked judgment loss. This condition developed over a period of nine months during which time the patient lost his business through foolish expenditures of money. Characteristic sensorium defects and lack of insight were present. Physically, Argyll-Robertson pupils, glossolabial tremor, speech defect and absent deep reflexese were present. The spinal fluid had 21 cells per cmm. excessive protein content, four plus Wassermann with paretic zone colloidal gold. Progress. Malarial inoculation was successful, 14 chills were permitted. Rapid mental and physical improvement resulted; the patient returned to work within four months and has continued up to date in a full remission. Mental status. On several occasions since has been entirely normal.

2. G. H., male, 58 years, was transferred to a psychopathic hospital after vigorous intravenous treatment. Grandiose delusions with acute excitement and euphoric mood had developed rapidly during the past month. His mental state became unmanageable in a private hospital. First examination February 20, 1926, rvealed marked mental confusion with disorientation and sensorium defects. Physically positive neurosyphilitic involvement was evidenced by fixed pupils and exaggerated knee jerks. Blood Wassermann was one plus, spinal fluid cells 7 per cmm. protein excessive, Wassermann four plus. Progress. Malarial inoculation was successful, 16 chills were permitted. Mental improvement began during the febrile stage and continued. He was discharged within sixty days and has remained in excellent mental health since. This patient did not reach his former occupational level but this was explained by employment conditions.

3. C. H. G., male, 52 years. Was taken to the Douglas County hospital, July 9, 1926. His wife stated he had quit work one month before, became very talkative, active and restless. When examined he showed disorientation, over activity, euphoria and suggestive auditory and visual hallucinations. Physically fixed pupils, exaggerated tendon reflexes, and lip and hand tremor was present. Blood and spinal bluid Wassermanns were four plus. Progress: After 22 malarial chills the patient made a remarkable physical and mental gain. Within four months full insight and normal sensorium were present. A complete remission has followed and patient returned to work as a chef.

4. W. E. H., age 35; was referred to the office on February 21, 1927. Mentally the patient showed marked sensorium defects and loss of insight into his mistakes. Physically marked speech defect, glossolabial tremor and exaggerated reflexes were present. A 15 pound loss of weight occurred during the past year. Spinal fluid showed 4 cells per cmm. excessive protein, four plus Wassermann and paretic colloidal gold curve.

Progress: Malarial inoculation was given and the patient returned home under family physician's care. Fourteen chills were given, the patient became extremely delirious, developed bronchopneumonia and after a stormy period recovered. The patient developed a complete remission, and has reached a higher occupational level than before treatment. He is now receiving tryparsamide therapy and the spinal serology is returning to normal.

5. Chas. P., age 37, electrician. Admitted to the Douglas County Hospital, November 3, 1925. History, as given by his wife, revealed mental deterioration for six months previously, progressive loss of memory and mental confusion; could not find way home from down town; arrested for appearing nude in a public place.

Examination showed marked clouding of consciousness, unresponsiveness, disorientation to time and place. Physical signs, sluggish pupils, glossolabial tremor, increased deep reflexes, blood and spinal fluid Wassermanns both four plus Malarial inoculation was given November 10, 1925. Fifteen chills were allowed. Four weeks after the cessation of the chills much improved. Left the County Hospital on January 30, 1926, was able to play cards and checkers well and appeared in good remission. In November, 1926, was reported as working in Chicago as lineman for power company. Wife stated his condition was "wonderful". In May, 1928, he was reported by a friend as being in good health. No arsphenamine treatment was given while he was in the hospital.

DISCUSSION

F. A. LONG, M. D., (Madison): I am not capable of discussing a paper of this kind, but I want to mention a matter that came to my attention last week. My daughter is chief of the Traveling Library Service of Wisconsin. The wife of a member of the Library Commission suddenly lapsed three years ago, over night. Since that time she has not taken an interest in anything, and could not be coaxed to talk. They kept her in a private sanitarium until two years ago, and then she was committed to an institution.

Quite recently she developed facial erysipelas. She then began to ask for members of her family. She has asked to go home and worried about the expense she had been to her family.

I mention it as probably a case in which the reaction produced by the high temperature of erysipelas produced some effect on her mentality.

B. F. BAILEY, M. D., (Lincoln): I do not think any question exists in the minds of the profession today but that we have found an active weapon against this disease. There are a few things I should like to call to your attention. First, how did we come to this discovery? The way we come to most discoveries—a matter of observation of the patient to prove it by experiment, and the proving of it.

I presume a great many here who have had experience with mental cases have seen, before this matter was ever suggested, a clearing up of the mind under febrile conditions. I have many times. It leads us naturally to the supposition this was true with lues, but it arouses the question whether or not some psychic cases that we had not considered the result of lues infection, may be, and that is why the febrile condition relieves them.

Another thing: As the Doctor has said, in the early stages these are relieved. Up to a certain point they will be relieved. Beyond that they never will be. In other words, you cannot restore destroyed nerve tissue. When it is destroyed, so far as it is concerned, it is unquestionably beyond restoration. Further than this, as the Doctor has so well shown to you, it is probably not so much a destruction of the spirochete as the establishment of immunity. He has also shown you later the Wassermann decreased. That indicates possibly in any case where we establish immunity, there may be a check upon the spirochetes or germs of their infection that afterward render them less destructive.

I should like to suggest in closing, if the medical profession were not such a busy people and could take a little more time to collect the observations of repeated impressions in repeated cases and the results in cases, as time went on we would have some possibility of attaining results following experiments and discoveries.

I think it probably is twenty years since I first noted that febrile conditions often cleared mental conditions. I am sure Dr. Young did a long time ago. It is a wonderful discovery. Some of these cases will improve, but as long as the Wassermann remains positive, we never know when again active work will be set up. On the other hand, it is one of the greatest advances that has been made.

This paper is telling us what we are being told continually, that there is at least one good weapon against hopeless disease. The Doctor said he had two failures. Why should we hesitate when we know we have experienced failure without it?

G. M. WHITE, M. D., (Ingleside): I was very much interested in this paper of Dr. Young, more particularly as we do not ourselves use malaria. We use tryparsamid. We have had several of Dr. Young's patients out there. I think perhaps we have been unfortunate in the class of patients that come to us after malaria. They are the ones who have not reacted well to the treatment we give there. They are hopeless when we get them. I am positive the class of patients who come to a state hospital are the more advanced cases, and consequently, the more difficult to treat, and with a poorer prognosis.

Our method of handling the treatment of malarial cases that come to us—the cerebrospinal lues who have had malarial treatment—is to allow them to go six months without treatment of any sort. If, in that time, they have shown improvement, then we do not treat with tryparsamid. If, after that time, they have shown no improvement, then we give them tryparsamid. We have several cases out there that are now clearing up, who had it. We have cases who have had complete return, and approximate remission, as far as can be determined from clinical signs —men who will hold a conversation logically, will respond to ordinary clinical tests, and who are active workers about the institution, trusted and responsible patients. We hold them because our aim is to completely rid the blood and spinal fluid of all infection and completely clear the Wassermann before they go home.

The Doctor spoke of one man who was at Ingleside. That man continually had a 4 plus positive blood and spinal fluid when we began treating him. That was six months after he had had malaria. He continued the same for two or three courses of treatment afterward. Then his serological began to drop. I think it is something around one plus blood and two plus spinal fluid. He has been there a long time. This man is one of our good, reliable, trustworthy patients. He has every privilege of the house. We allow him to go to town. He is at the institution during the treatments. In the interval between, we allow him to go home. We have several patients of the same sort. Sometimes they have gone through their course of treatment before we affect the seriological at all.

E. WILLARD POWELL, M. D., (Omaha): Being familiar with some of these early cases Dr. Young talked about, although it is out of my field entirely, I cannot quite let this go by. It was stated these patients, after malarial treatment, were allowed to go on without treatment for six months. I should like to ask any one of you if you have ever had malaria, and if you have ever seen a few of these cases that have had malaria? You take the average individual syphilitic case and let him run down in general health, and malaria knocks him lower than he ever was in his life. When he gets about the seventh chill, he does not care a cuss whether he ever comes out or not; and he wishes after the eighth he wouldn't. But after you give him the quinine and he is over it, he is very happy, but terribly weak. For one thing, you want a cacodylate of soda, or something like it.

One of the first cases Dr. Young called to mind was a man who had syphilis twenty-seven years before. He was a high type brick mason. He became the most filthy looking individual you ever saw. He was abusive. He had all kinds of hallucinations. He came with a low blood Wassermann, but a four plus spinal fluid. After malaria, his blood Wassermann jumped up. He was continued along with cacodylate. I say his antisyphilitic treatment was continued, and in about four months he had a negative spinal fluid. He is now working as a stone and brick mason, and I think he has worked for a year and a half without losing a day. He has gained in weight.

I think it is a serious mistake to wait six months after malarial treatment before giving the patients further treatment. They need a lot of attention and good food immediately after. They need tonics.

I think this work being done is a godsend. What is the difference if you lose a few patients? One or two deaths do not amount to anything, because they are all going anyway. The percentage of cures is increasing. I made two trips to Norfolk to see some of these cases. It is perfectly marvelous what is being done. The only fault is we do not get our cases in as soon as they show the first evidence. Many of the older cases will surprise you, as this one did.

D. T. QUIGLEY, M. D., (Omaha): I rise to bring up a question or two that develops in this connection.

The tone of Dr. Young's paper seems to indicate one certain type or kind of malaria organism is used. Is that correct? Evidently it has been found by experiment this type is more efficient than the other types. This brings up the question as to whether or not we may have different types of organisms causing the syphilis? In my own experience, I have had three cases infected by the same woman. All three cases developed paresis. This is only one group of cases, but I had this experience quite early in my medical history. I was impressed, perhaps there was a certain type of syphilitic organism specific for nerve tissue. If we have one kind of malarial organism that seems to act favorably, it may be possible we have one kind of syphilitic organism on which our malarial organism acts in the most vigorous manner. I wanted to ask Dr. Young if any work has been done along that line, trying to narrow it down to a more scientific point?

Another thing: If this works as it seems to work so beautifully in some rather early cases of paresis, and we may assume it does not work in all cases, but if it works in old cases that are simply syphilis of nerve tissue, has any work been done or do we know anything about the action of this malaria organism on other kinds and types of syphilitic infection? In other words, we find a good many cases of syphilis that do not respond to salvarsan or mercury or bismuth. There is a good percentage of syphilitics who do not respond to the usual treatment. If we have an organism that imposes syphilitic infection, we may have a weapon to get all these cases.

J. BLAINE BABCOCK, M. D., (Ingleside): I should like to give a few figures on some of the cases we have had at Ingleside during the past two years. Dr. White has told you we have not used any of the malarial treatment, although we have received several cases of paresis who have had the preliminary inoculation Dr. Young has described.

In the past two years we have received 55 paretics. Fifteen have died. Five of those died before they had any treatment whatsoever, and ten died after receiving just a very few treatments. At the present time we are treating forty with tryparsamid. Out of that number, ten show no change; fifteen are holding their own, and in doing that they are a little bit better than holding their own; and fifteen, or about 30 per cent, have showed a marked improvement.

C. C. TOMLINSON, M. D., (Omaha): Unfortunately, I did not hear Dr. Young's paper. I am sorry I did not. I think malaria is one of the most valuable additions to our armamentarium for treatment of syphilis that has come out in a good many years. I think tryparsamid is particularly valuable in the treatment of paresis.

There were two points brought up in discussion I should like to mention. Dr. Powell mentioned the matter of early treatment. I think we are still falling down seriously in early treatment of syphilis. The best time to treat paresis is while it is something besides paresis. We do not recognize infection of the nervous system takes place early in the disease. We do not do spinal punctures. We should follow it not necessarily in any particular kind of treatment, but to determine it is there. It may respond to routine treatment of intravenous aresenic and one of the heavy metals, either mercury or bismuth.

If there are clinical symptoms indicating the patient is not responding to routine treatment, he should be given special treatment directly to the nervous system. I have seen paretics under tryparsamid who have been literally jerked under commitment to an institution. I think it is a thing we have not yet come to evaluate correctly. It was like most new things. We were much taken with the favorable reports, and the next wave was the other direction. Now we are coming to realize its true value comes only after a long period of time—maybe one to two years of intensive treatment, not with that alone, but the drug should be kept up for long periods of time.

The most important point I think in this whole thing is the early recognition of involvement of the nerve structures and more intensive treatment of a routine type. I was asked recently whether or not it would be necessary to take more than one quart after the blood Wassermann became negative. We pay too much attention to the laboratory report. A negative Wassermann does not mean very much. Treatment should be kept up after the blood becomes negative. I tell patients it is an indication they are responding to treatment but not an indication we should let up. We should keep after it persistently for at least two years.

DR. YOUNG, (closing): I wish to thank the members who have taken part in this discussion for their valuable remarks. Perhaps I had better go back over the list of the speakers.

With reference to Dr. Tomlinson's statements, I can merely emphasize what he has said—that there should be early recognition of syphilis. We should remember the localization of the spirochete in the nervous system probably takes place during the secondary period. When we find during the same time rash occurs, we find an increased cell count in the spinal fluid. Second, we should remember a negative blood Wassermann does not mean a negative spinal fluid Wassermann. Repeatedly we find such cases with the spinal fluid Wassermann strongly positive.

Answering Dr. Quigley's question, I would say Levidity claims to have good proof there are strains of spirochetes which do develop. I am not in position to say whether he still holds that view or not.

In regard to malaria's being used for other forms of syphilis than paresis, I would say we use it in chronic cases of cerebrospinal syphilis wherein they do not show the proper response to routine treatment with salvarsan and bismuth. I think that the Mayo Clinic in its venereal department uses malaria for Wassermann cases of constitutional syphilis at times.

With respect to Dr. Powell's remarks, I think these patients should have supportive treatment following the malaria, and I should like to emphasize again that there should be a very careful watch of the disease during the febrile period so that where evidence of cyanosis occurs during the febrile stage, quinine be given to prevent a possible painful termination.

I want to thank Dr. White and Dr. Babcock for their kind discussion. I know we have been inflicting upon Dr. White cases of paresis that have had malaria, although we know he would much prefer them without; but with the state hospitals in the present state of overcrowding, we are only too glad to get them anywhere we can away from the Douglas County hospital.

Just a word with reference to Dr. Bailey's remarks. It has been shown in inoculations with syphilis that the animals given malaria after the inoculation did not develop syphilis, while those animals that have not been given malaria, with the same strains, did develop syphilis. It is probable that the high temperature may have something to do with the amelioration of the spirochetotic process by destroying the spirochete; but as one man remarks, we must remember that both the spirochete and the plasmodium belong to the order protozoa, and there may be developed an increased immunity towards the spirochete; whereas in cases of sleeping sickness and other infectious nervous diseases, we do not get improvement with malaria, as far as my experience goes.

I thank Dr. Long for his discussion. In closing, I want to say, twenty-two years ago I was in the Norfolk State Hospital and we had a chronic dementia praecox case who developed an acute gallbladder. I was not so very long from the Cook County Hospital, and I thought I would operate that gallbladder. I took out the gallbladder all right, but had a beautiful wound infection that kept up for two months. That patient got well and remained well for about a year; but she came back to the same dementia praecox. Whether, if we had removed focal infection at the same time, she would have remained well, I do not know.

PRACTICAL SURGERY—(Continued)

JOHN E. SUMMERS, M. D.,
Omaha, Nebr.

Some of the Acute and Sub-Acute Emergencies in the Surgery of the Urethra and the Bladder.

RETENTION OF URINE

As stated in a previous paper every general practitioner should know how to recognize the different causes of retention of urine, and from the histories and local findings determine the treatment and be able to carry it out. In none of which is required more than ordinary common sense and sufficient skill to afford at least temporary relief to the sufferer until perhaps in some instances more experienced aid can be summoned.

Retention of urine in the male may result from either pathology or traumatisms of the bladder or urethra,—the most common of all causes being hypertrophy of the prostate gland.

In order to comprehend the safest way to advise and treat a man suffering from retention of urine from hypertrophy of the prostate, it may be wise to consider the usual history leading up to such an attack so that possibly its occurrence may be by anticipation avoided. First, it must be remembered that it is not always the size of the prostate that brings about the interference with the outflow of urine. An enlarged median lobe really of small dimensions, or irregular enlargements of the lateral lobes may so mechanically obstruct the urethra or interfere with the function of the bladder sphincter, that it cannot dilate. I have always been much of a follower of the French School of genito-urinary surgery, particularly of Guyon and one of his worthy successors, Marion. The French have ever been in the van in Urology.

There is always the premonitory symptom of trouble for the prostatic sufferer, and that is the nocturnal frequence of micturition. It is brought about by the congestion of the adenomatous mass by the horizontal decubitus in bed. The first symptom is the desire to evacuate the bladder earlier in the morning than formerly. At this time the bladder can most probably be completely evacuated; later, the individual has to get up and relieve himself several times during the night. This is the period when there is practically always some residual urine, and as time goes on there may be some distension from very incomplete evacuation; the micturition is slow and may be dribbling. Added now, there is frequency during the daytime, especially if the individual spends much time lying down; as a result of straining there may be some blood passed, usually at the end of micturition. Suddenly, almost without warning, as a result of exposure to cold, over-indulgence in alcohol, or some unaccustomed over-distention, there is complete inability to micturate and the individual seeks relief.

A hot bath and a hypodermic of morphine tends to relieve the congestion in the prostate in which the mucosa of the bladder participates. In my observation this humane and logical procedure is only occasionally followed by relief.

The indication to the physician is, of course, to pass a soft catheter. It should be a fairly sized one; a number of different shaped ones are recommended. I have often, in difficult cases, been successful with silver catheters of different curves, when others had failed, with soft, semisoft, or stiletted catheters.

When, after a patient trial at catheterization, failure results, one should without further delay aspirate the bladder.

By aspiration the evacuation is so slow that the congestion of the prostate and bladder and the back pressure on the kidneys is so gradually relieved that no ill-consequences follow, but when the catheter is successful one should only allow a part of the urine to escape, using the catheter again possibly several times in the next few hours, and using judgment as to the frequency comparable to the amount of over-distention, attempting to bring about gradually complete evacuation. This catheterization or aspiration may be followed by relief of the symptoms of retention and the patient renew his more or less uncomfortable condition of frequency, or else become a confirmed user of the catheter. This usually is the case if bladder function is not restored. Marion says, and I think it a reliable prognostication, that voluntary micturition will probably terminate when, after twenty-one days, the catheter still has to be resorted to, and that a positive prognosis of chronic complete retention may be made when after six weeks the catheter still has to be used.

CATHETERIZATION OF THE URETHRA

It must be remembered that the urine contained in the healthy bladder is an aseptic urine, i. e., a urine free from germs. The anterior urethra, particularly near the meatus, always contains micro-organisms; therefore, before attempting to pass a catheter into the bladder precautions should be taken to sterilize carefully all instruments used, and it is also wise to wear sterile rubber gloves. The glans, meatus, and anterior urethra should be washed with a mild antiseptic before passing a catheter, which should have been made sterile and lubricated with some sterile non-irritating material, "KY", olive oil, vaseline, etc. It is often observed in any instrumentation of the urethra if the manipulation is not done in a gentle, slow manner, there is produced a spasm of the canal, especially in the membranous portion, and a catheter is arrested at this place; this spasm gives away if gentle pressure is maintained. The manipulation of instruments in the deep urethra requires considerable experience to do it wisely, and that means successfully. I have frequently seen cases when young physicians fail because they are either in too great a hurry or else use too much force. For example, Doctor Van Camp, of this city, recently sent me a man, a prostatic sufferer, who was in distress from retention of urine. The attack had developed while he was riding on a train, coming from a distance. Two young physicians had attempted to catheterize him using solid instruments; they had tried hard, as evidenced by the bloody condition of the man's underclothing. After cleansing the parts, washing out clots from the urethra, etc., no difficulty was experienced in introducing a large-sized silver catheter and relieving the retention. After proper preparation the prostate was safely removed by the suprapubic route. Only last week I succeeded in accomplishing a successful catheterization at the county hospital, after failure by one who is usually very successful in such work. I was in this particular instance summoned to do a supra-pubic cystostomy. Marion cautions that when the prostate is very large it may be necessary to introduce the catheter nearly its whole length before the urine begins to flow. One should remember again in these prostatic cases not to empty the bladder completely for reasons given before.

ASPIRATION OF THE BLADDER

This is indicated when one fails to introduce a catheter, and also when, because of a stricture in the urethra, catheterization is impossible. When a patient can, however, in a slow but painful way gradually relieve his bladder through a tight stricture it is seldom necessary to do any operative procedure, because by means that I will discuss failure to dilate the urethra seldom follows persistent practical efforts. These usually consist in trying to pass a small gum bougie after having, with a syringe, filled the urethra with sterile oil. When such a bougie cannot be passed a filiform bougie almost always can, and when successful, the patient being in the hospital, we are in the habit of allowing the filiform to remain in the urethra 12-24 hours. On straining the urine will trickle out alongside of the filiform. From then on, we are able to dilate the stricture gradually with suitable sized instruments. I have now under my care a man in whom the practice just recommended has been carried out most satisfactorily. I never personally use or have used in such circumstances, a small (10-12 French) steel instrument, for fear of making a false passage.

The technique of aspiration is very simple: Under aseptic precautions the needle is passed vertically in the median line about one to two centimetres above the symphysis until its point is felt free within the bladder. The aspirator is then attached and the urine withdrawn. As when using the catheter it may be wise, for reasons mentioned, not to withdraw all of the urine; later a second aspiration should be done. Not infrequently after an aspiration, congestion being relieved, the patient may pass his urine voluntarily.

Before the invention of the aspirator the trocar was used, and its employment dates back several hundred years. In its early employment it was the habit sometimes to allow the cannula to remain in for a more or less permanent drainage, and today we sometimes slip a catheter through the cannula into the bladder and withdraw the cannula, allowing the catheter to remain in the bladder. This is a wise practice when the patient lives at a distance and circumstances do not admit of desirable frequent visits by a competent physician. If the aspiration is aseptically done there is no danger of infection. I have seen a fatal infection follow when on withdrawing the needle some infected urine involved the puncture wound. When the urine is known to be infected a little air should be forced through the needle emptying it, before it is withdrawn. A foreign body in the urethra, either in the prostatic portion or further outward, may cause a retention of urine. I was once called to Nebraska City to operate upon a man with retention of urine. He was a large fat man of the age favorable to enlargement of the prostate. It was a case of so-called vesical prostatism. The physician in charge had been unable to relieve an acute retention. Not deeming it wise to make further attempts to pass instruments into the urethra, the man was not in good condition, I did a supra-pubic cystostomy. In passing a sound into the internal meatus, the prostate was appreciably enlarged, the end of the instrument struck an impacted stone. After dilating the prostatic urethra with my index finger passed into the internal meatus, I was able to grasp the stone in a forceps and remove it. The obstruction being removed, the supra-pubic wound soon closed and the man's bladder function was restored to normal. In another instance a stone had been lodged in the peno-scrotal urethra causing obstruction. Ulceration developed and the stone passed laterally, forming a diverticulum; the obstruction was relieved. I removed the stone by incision; the wound finally closed with a tendency to form a stricture which had to receive periodic attention.

WOUNDS OF THE URETHRA

In civil practice it seldom happens that a physician is called upon to treat a wound of the urethra, however, it occasionally happens that the urethra may suffer an incised or contused wound, in either of which the canal may be completely or incompletely divided. In the contused type, however, there is always a greater or less destruction of the borders of the urethral wound and of the contiguous parts of the bed in which it lies. It is in the consequences of these injuries that the physician is most anxiously interested. According to the nature of the trauma either the urine is passed in part or in whole through the external wound, or else where retention exists this indicates that in the efforts of micturition urine is infiltrating the tissues immediately surrounding the wound of the urethra. Marion calls particular attention to the recognition of these conditions. In every kind of wound of the urethra blood makes its appearance at the meatus and when a catheter is attempted to be passed, if the wound in the urethra is longitudinal or transverse but incomplete, it can usually, if carefully manipulated, be made to enter the bladder. In the contused wound with possible destruction of an area of the urethra and its surrounding tissues the catheter cannot be passed. This latter condition, if not early attended to, can lead to serious local, constitutional, life-threatening symptoms from extravasation of urine, gangrene, and septic infection.

TREATMENT

When there is positive evidence of a wound of the urethra indicated by the passage of urine in part or in whole through an external wound, the indication, of course, is the early making of a median incision for the free exposure of the wound and the repair by suture of the urethra. Whether it may be wise to do a supra-pubic cystostomy in order to lessen the danger of infection by leakage of the sutured wound, should be left to the judgment of the operator. I have in such an instance and in another where there was a question of the repair of the wound, introduced a catheter into the bladder, repaired the wound over the catheter, allowing it to remain in the bladder for drainage; a practically primary repair without leakage resulted. It may and probably will be wiser in the majority of instances to divert the urine from the urethra by a cystostomy until the wound in the urethra and perineum has repaired.

RUPTURE OF THE URETHRA

Rupture may occur in any portion of the urethra. Those in a flacid penile portion are very rare although they may follow blows or some compressing force. In a rigid condition accidents well understood, *flexions brutal,* may result in a rupture. Physical attempts at relieving a painful cordee by bending upward the bent-downward organ may, because of the inflammatory turgescence of the cavernous and spongy bodies, cause a snapping or tearing across of the bow-string urethra, and at the same time injure its surrounding envelopments. Direct injuries to the perineum by blows, falls astride rigid bodies, as for instance, a carpenter falling astride a scantling; a boy walking on top of a board fence, falling in the same way, crushing accidents resulting in fractures of the pelvis. When such a direct injury occurs to the perineum the urethra may be ruptured, and this is especially apt to occur when the contusing force tends to crowd the urethra against the under surface of the pubic arch. The urethra may be ruptured in front of, or less often through its membranous portion; the latter is practically always the location when a crushing force fractures the pelvis and the displaced fragment is that of a pubic ramus.

The symptoms of perineal rupture are quite characteristic: Shock following the injury, urethral hemorrhage, pain and swelling in the perineum, and when attempting to urinate the patient fails in part or completely to relieve himself. If the rupture is incomplete and the mucosa remains intact, there may be complete retention due to spasm of the bladder sphincter and hemorrhagic exudate upon the canal; a catheter, however, can be passed. When the rupture is complete, attempts to mictuate are followed by leakage of urine into the periurethral tissues, with an increasing painful swelling in the perineum. During the past summer I had under my care in the county hospital, two cases of fracture of the pelvis involving the urethra, both automobile accidents. In one a mistaken diagnosis was made. The x-ray demonstrated a fracture of the pubic rami on each side; there was hemorrhage from the urethra and inability to mictuate. A catheter apparently passed into the bladder evacuated a considerable amount of blood. There was pain and tenderness and rigidity of the supra-pubic region; a diagnosis of extra peritoneal rupture of the bladder was made. A supra-pubic extra-peritoneal incision disclosed an extensive extravasation of blood; the man died in forty-eight hours. The autopsy disclosed a complete division of the urethra at the prostatic apex; the bladder was intact.

In the other case, both pubic rami on the right side were fractured; the young man could not micturate, neither could a catheter be passed. However, by pressure with a finger in the rectum I was able to move the compressing fragment sufficiently so that a catheter could be passed. It was allowed to remain in the bladder several days, when, on its withdrawal, urethral function was restored and the case went on to recovery, being treated on a Bradford frame attached to a Balkan frame and suspended as required.

When extravasation of urine does occur a prompt median perineal incision should be made while the urine has spread no farther than the perineum; otherwise, as in rupture of the urethra behind an impermeable stricture, the extravasation always becomes infectious and together with its pressure effects spreading beneath the fascia, results in a more or less gangrenous destruction of the external genitals, which can only be saved from disaster by free multiple incisions. The infection may prove fatal as I have seen in a number of instances. Of course, after gangrene has developed, nothing further should be attempted than life-saving incisions. As an illustration of my practice in handling these cases of rupture of the urethra, several of which I have operated upon successfully in farm-houses at a considerable distance from here, I will briefly give the history of a case of pathological rupture of the urethra with extravasation of urine. The man was treated at my clinic at the Clarkson hospital.

STRICTURE OF THE URETHRA WITH EXTRAVASATION OF URINE, PERINEAL SECTION AND SUPRA-PUBIC CYSTOSTOMY

He was sent to the hospital by my assistant. The history showed that he had had a stricture of the urethra for several years which had narrowed the calibre of the canal to such an extent that micturition was slow, painful and difficult. On the day before, while trying to urinate, he had felt something give away in the perineum and from that time until seen by my assistant he had suffered greatly from inability to urinate and an increasing swelling in the perineum which was beginning to involve the scrotum and penis. As a temporizing measure the doctor aspirated the bladder above the pubis and then sent the patient to the hospital for operation. Several hours after admission I saw the man and found the bladder visibly distended, the perineum bulging and the scrotum and penis swollen and slightly oedematous. All of these indicating that, with the first history, there had been a rupture of the urethra behind a stricture in the immediate neighborhood of the bulbo-membranous portion. The anterior layer of the triangular ligament must have been torn through because the inflammatory symptoms followed the extravasation, i. e., the swelling of the perineum followed shortly by involvement of the scrotum and penis, showed that the rupture could not have occurred in the membranous urethra alone, between the two layers of the triangular ligament, as it requires considerable time, more than a few hours, for this to take place. Had the rupture occurred in front of the anterior layer of the triangular ligament, the symptoms of etxravasation would have made themselves more evident in the scrotum and penis prior to the swelling in the perineum. After the parts were carefully prepared the patient was placed in the lithotomy position and a staff passed, which was arrested at the site of stricture. A free incision in the middle line of the perineum exposed the end of the staff and evacuated a considerable quantity of foul-smelling, purulent urine. Although a painstaking search was instituted the proximal end of the urethra could not be located, and deeming a more prolonged manipulation harmful and apparently futile, the patient was placed in the Trendelenburg position and the bladder opened by a free supra-pubic incision. A sound was then passed from the bladder through the prostatic urethra into the membranous portion and the proximal end of the urethra located, the sound was withdrawn and I then gradually passed my index finger from the bladder through the urethra meeting the index finger of my other hand in the perineal wound. A large soft catheter was then passed from the meatus of the penis into the bladder, the wound in the bladder partly closed, and a drainage tube introduced. The abdominal incision was closed to the lower angle where an iodoform gauze drain was placed, the perineal section was lightly packed with iodoform gauze.

After the operation the man did exceedingly well. He was given quinine and salol grains five each, every four hours, for several days. The catheter was permanently removed in ten days and was only reintroduced for the purpose of irrigating the bladder twice daily with a warm boric acid solution. The perineal wound closed by granulation and then the supra-pubic wound was allowed to close.

The repair of fistulous perineal openings resuling from rupture of the urethra, traumatic or pathological, may be taken care of successfully in some way similar to the practice followed in this case, only in such instances one has the advantage of being able in a measure at least, to carry out an aseptic operation.

"I doctor myself by the aid of medical books."
"Yes, and some day you'll die of a misprint."—Nebraska Awgwan.

SKIN PLASTICS: TYPES AND INDICATIONS

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Thesis: Service of Drs. Lord, Schrock and Johnson.*

Plastic surgery of the skin dates back to the time of the ancients, but it has not been until the last fifty years that it has become elevated to regular surgical practice. Today there is probably no field of surgery more generally useful than plastic surgery of the skin.

Skin plastics(1) are divided into skin grafts and skin flaps. A skin graft is a mass of tissue cut free to be transplanted where desired and which receives its blood supply from the surface on which it is placed. A skin graft may be either a portion of the thickness of the skin or the whole thickness of skin with or without subcutaneous tissue attached.

A skin flap is a mass of tissue which is attached at some portion of its periphery or base by a pedicle through which it receives its blood supply, and can be shifted only so far as the pedicle will permit. It is made up of whole thickness of skin with as much subcutaneous tissue as is required. From these definitions it will be seen that skin grafts and skin flaps are entirely separate entities.

Skin grafts are designated according to the source from which they are obtained and are named autografts, isografts or zoografts.

An autograft is one taken from the patient himself.

An isograft is one taken from another individual of the same species.

A zoograft is one taken from a lower species.

These terms are to be preferred to the older names, homografts and heterografts, which are confusing.

I. TYPES

A combination of the types of plastics as outlined by Davis(1), Urkov(2) and Koch(3) gives a satisfactory working classification:

- I. Skin grafts: Autografts, isografts, zoografts.
  - 1. Thin skin grafts.
    - a. Small, thin or Reverdin grafts.
    - b. Large, thin or Ollier-Thiersch grafts.
  - 2. Thick skin grafts.
    - a. "Small deep" or small, thick grafts (Davis).
    - b. Large, thick or whole thickness grafts. (Wolfe-Krause).
- II. Skin flaps.
  - 1. Sliding flaps; also called the French type or method.
  - 2. Pedunculated flaps from neighboring cutaneous tissue; also called the Indian type or method.
    - a. Plane Flaps.
    - b. Tube Flaps.
  - 3. Pedunculated flaps from distant cutaneous tissue; also called the Italian type or method.

Davis(1) states that isografts should never be used, although he suggested in 1916 its standardization by means of blood grouping. Blood grouping, it was hoped, would settle the question of isografts, but it did not. There are two chief contraindications to the use of isografts:

1. The danger of development of anaphylactic symptoms;
2. The danger of transmitting disease, such as syphilis, tuberculosis, etc.

According to Davis, isografts frequently do not take even though the blood grouping of recipient and donor match perfectly and because they are rarely necessary since few cases present which have insufficient undamaged skin surface to furnish autografts.

On the other hand Urkov(2), Masson(4), and principally Shawan(5) favor the use of isografts if the grafts are obtained from individuals of proper blood groups. The latter was the first to make the first routine report in connection with war injury cases, while the Mayo Clinic in 1918(4) did routine blood matching in cases where the use of isografts was contemplated.

Shawan's clinical results showed that isografts obtained from donors of the same group as the recipient or from Group IV (Moss classification) donors became permanent takes and grew almost if not equally as well as autografts.

Isografts from donors in whom the blood grouping is different (except when Group IV skin was used or the recipient belonged to Group I) did not remain as permanent growths.

Group I recipients grew permanent skin from donors of all of the four groups apparently equally well.

Group IV skin grew permanently on recipients of all groups, but only Group IV grafts and autografts remained as permanent takes on Group IV recipients.

In some cases the grafts were incompatible and it is suggested that the laboratory tests for compatibility grouping were erroneous.

From the above Shawan concludes that skin grafting obeys the principles of blood grouping.

Ceccarelli(6), in an experimental study, has found that autoplasts always succeed when properly done, while grafts from a brother often survive. He further finds that one may be confident of success in a permanent take if the graft is first kept for twenty-four hours in the blood plasma of the recipient, provided other things are equal. Such grafts heal in place even though there is no family relation, and even when the graft is a zoograft.

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The source of zoografts, whenever these are used (which is rarely), is from young puppies or pigs.

Thin skin grafts comprise:

1. The Reverdin graft; and
2. The Ollier-Thiersch graft.

The Reverdin graft, first described by him in 1870 as an epidermic graft, but later found by him to consist of the epidermis and a very thin layer of corium is the thinnest graft that can be cut and has a very small surface area.

The large, thin or Ollier-Thiersch(7) graft is very thin and may be compared with the true Reverdin graft (epidermis and thin film of corium).

Whole thickness skin grafts consist of

1. The "small deep" graft (Davis); and
2. The large, thick or Wolfe-Krause graft.

The "small deep" graft is of about the same size as the Reverdin graft but includes practically the entire thickness of corium.

Davis' "small deep" and the Reverdin grafts are sometimes called "pinch" grafts because they are made by pinching up a small portion of skin with the forceps and cutting. The method should be abandoned on account of the unnecessary trauma produced to the skin.

The large, thick or Wolfe-Krause graft consists of the entire thickness of skin (epidermis and corium) down to the subcutaneous tissue.

Davis(1) finds no need for dividing skin grafts into dermal and epidermal types as the latter does not exist unless obtained from the epidermal film over a blister. It is impossible to cut from the skin a pure epidermal graft.

Sliding skin flaps or the French type of flaps are used in open wounds where the adjacent skin is mobilized by undercutting from the edges outward. Large areas of skin can thus be shifted and the edges apposed and sutured in place.

A method described by Highsmith(8) is a modification of the above, in which no undermining of skin is done, however. When the raw surface occurs in a bearded area, as the face, and the wound is not infected, traction is applied on either side of the wound sufficiently strong to overcome the normal tension of the skin. The skin margins are thus brought in apposition.

The healing over with cutaneous tissue in such cases is based on the principle that skin proliferates when called on to do so from underlying pressure as cystic goiters, lipomas, etc. The traction should be continuous and may be obtained by the use of ordinary dress hook fasteners sewed on pledgets of gauze. The gauze is fastened to normal areas on opposite sides of the wound and the dress hook fasteners hooked up by rubber bands. The gauze pledgets are repositioned on the skin every forty-eight hours to avoid irritation. The wound fills in nicely.

Pedunculated flaps are made from cutaneous tissue in the neighborhood of the defect. Such flaps are also called the Indian method or type. There are two kinds: plane and tube flaps.

The plane flap should be cut so that the pedicle is as broad as possible and the length is about two and a half to three times the width of the pedicle. They should be twisted as little as possible to prevent the shutting off of the blood supply.

Pedunculated tube flaps, according to the technic of Urkov(2), are obtained by making parallel incisions in the skin, lifting the intervening skin from the underlying tissue, and suturing the two edges after repairing the surface wound. This prevents infection of the inner side of the flap. The distal end of the tube is severed, brought into place in the defect to be covered and sutured. The pedicle of the tube is not cut unless the circulation is satisfactorily established. It is customary to let the pedicle remain attached for ten days before cutting and attaching to ultimate site.

A new method of making tube flaps has been devised by de River(9). He names it the jump or interrupted method.

The Italian method is like the Indian except that the flap is obtained from a distant portion of the body. It may be done either by a single or double transfer.

This method is especially applicable in contractures of the hand, wrist and elbow secondary to burns as well as those due to congenital maldevelopments. Here the upper abdominal skin affords a convenient area for the flap.

II. INDICATIONS.

Indications for the use of skin plastics may be classified as follows:

1. General.
2. Pertaining to the patient and to the patient's defect.
3. For the use of the various types of skin plastics.
    a. Reverdin grafts.
    b. Ollier-Thiersch grafts.
    c. "Small deep" grafts (Davis).
    d. Wolfe-Krause grafts.
    e. Sliding flaps.
    f. Plane and tube flaps.
    g. Italian method.

The main, general indications for cutaneous plastics are(2):

1. Cicatrices and contractures following burns by fire or chemicals.
2. Defects following injuries or surgical operations.
3. Congenital defects or malformations, e. g., syndactylism, saddle nose, etc. These come under the classification of cosmetic surgery.

In contractures a covering of normal skin must be placed in the region of the contracture or the latter will return. The restoration of cover tissue is more important than deep tissue.

Indications pertinent to the patient and to the patient's defect:

The patient should be in the best possible condition(1), and the cutaneous tissue to cover the defect must be available.

The method to be used is determined by two factors(3):

1. The structures which constitute the raw surface; and
2. The presence or absence of infection.

The skin should be selected according to the area in which it is to be placed, e. g., skin to cover a defect of the lower lid can be obtained from the thin, hairless area of the inner side of the arm near the axilla; hair-bearing portions can be covered by skin plastics from the pubis, scalp, etc.

Skin should always be taken from an area where the resulting scar is covered by clothing.

Reverdin grafts may be used in all types of defects which are not deep. They take even in the presence of infection.

The large, thin grafts (Ollier-Thiersch), however, are usually preferred to the Reverdin or small, thin grafts. The former are very simple to make and successful in results although they frequently ulcerate and contract from their thinness(2, 10). Koch(3) states that in the presence of infection, however slight, an Ollier-Thiersch graft or pedunculated flap can be used with assurance of success. The large thin graft is usually taken from the thigh or leg. Davis(1) advises that fine granulations should be allowed to form first. This offers a good basis for successful taking.

"Small deep" grafts (Davis) are used on granulating wounds with more frequency and success than on fresh wounds. These should not be used, however, on exposed positions as they contract somewhat and leave a dotted appearance. Tension is essential in skin grafts. Whole thickness skin grafts may be used anywhere but are especially useful in areas over which there is constant trauma such as hands, joints, etc. Contractures are less likely to occur under these types of grafts than any other kind.

Of the large skin grafts the Wolfe-Krause or whole thickness skin grafts are to be preferred to the large, thin grafts because the former are not wont to ulcerate as frequently nor to contract(2, 10). They are indicated especially for deep tissue defects.

They may be used(10):

1. On fresh muscle, fascia, pericranium. and periosteum.
2. On bared, fresh or granulated tendon sheaths.
3. On palmar fascia of the hand.
4. On fine, clean, granulating areas generally except the neck.

The raw surface to be covered by thick grafts must be freshly made by resection of healed scar tissue or shifting of normal tissue. If the raw surfaces are formed in part by tendons, bone, joints, or by important nerves or blood vessels a full thickness graft with at least a thin layer of subcutaneous tissue is essential to afford adequate protection of underlying structures and prevent formation of adhesions of structures that should be free to move(3).

Other factors which govern the use and selection of large whole thickness grafts are:

1. The amount of available tissue.
2. The location of the raw surface.
3. The contour of the raw surface.
4. The folds and depressions of the raw surface.
5. The mobility of the raw surface.
6. The presence or absence of a firm base.

According to Urkov(2), the large, full thickness grafts show favorable results in only 40-50 per cent of cases. Davis(1), however, seldom meets with complete failure and only occasionally does he have partial takes. Urkov found success to depend chiefly on four cardinal principles (which differ in some respects from current practice):

1. The graft is cut exactly to size. Grafts shrink somewhat but are carefully approximated and brought to normal tension and size. After a few hours, fibrinous exudate fixes the skin in place.
2. The grafts are accurately adapted to the shape of the wound and the edges adapted by fine horsehair mattress and single interrupted sutures.
3. An even optimum pressure is maintained over the skin graft and edge of the wound. An inflatable rubber bag is placed over the graft and attached to a sphygmomanometer and kept constantly at a pressure of 30 mm. of mercury. The sphygmomanometer need be inspected only twice daily and pumped up a little if the pressure has gone below 30 mm. of mercury.
4. The operative field is immobilized to prevent rupture of delicate vascularization that has formed from the host.

The blood supply of whole thickness grafts is established in three ways(1):

1. By anastamosis of small capillaries of about the same caliber.
2. By upward growth of capillaries inside old vessels.
3. By invasion of capillaries from the host tissue.

Circulation in a graft has not been observed to be established under twenty-two hours.

Sliding flaps can be made by undermining or undercutting skin peripherally from the edges of a wound. Thus large areas of skin may be mobilized, the edges brought together and sutured (French method). Highsmith(8) has modified this in open wounds of the face (a bearded surface is difficult to match with a proper bearded graft) by placing tension on the edges of the skin without undermining it first.

Pedunculated flaps are indicated chiefly for marked facial defects(2), and to cover surfaces left by excision of scar tissue(3). The tube flap obtained from the shoulder and arm is ideal for neck and face defects.

The plane pedunculated flaps may be obtained from the forehead, scalp, chest, and even from the back(11) for face and neck defects. Defects of the axilla, forearm and hand may be covered in the same manner by flaps from neighboring tissue.

The Italian method, as already stated, has a limited but very definite place in the plastics of the distal third of the upper extremity and also a selected group in the lower extremity.

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THE GALLBLADDER AND CYSTIC DUCT

(CLINICAL ANATOMY)

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The liver arises as a diverticulum from the foregut. From the original diverticulum there is an outpouching forming the gall-bladder and cystic duct. These later vary in position from being deeply embedded in the liver to being attached by a mesentery but in most instances lying just in contact with the under surface of the liver surrounded by the same peritoneal layer that surrounds the liver. Not infrequently there is a double peritoneal layer extending from the under surface of the gallbladder to the duodenum and colon. It lies in the same direction and is continuous with the gastro-hepatic omentum. In fact, its free edge may be considered the anterior boundary of the foramen of Winslow except for the fact that the common duct, portal vein and hepatic artery are more medial and not in the free edge. This is possibly the free edge of the long ventral mesentery of the embryo which instead of extending from the porta hepatica to just beyond the pyloric end of the stomach has extended from close to the free edge of the liver overlying the gallbladder to a point lower down on the duodenum, or possibly an embrylogical adhesion resulting from the rotating large gut coming into contact and fusing with the gallbladder. Many times this so-called hepato-duodeno-colic ligament has been seized upon as evidence of past inflammation and a normal slate-blue translucent and normal functioning gallbladder removed.

The surface relation of the gallbladder varies but the usual position is just beneath the junction of the right rectus muscle and costal margin.

The gallbladder consisting of the fundus and an S shaped neck continuous with the cystic duct is directed backward, upward and to the left. The cystic duct measures about 3 to 4 cm. and joins the common hepatic duct.

Eisendrath divides the types of arrangements of the cystic duct into three classes, namely (1) those in which the cystic duct joins the hepatic duct at an angle (75%); (2) those in which the cystic duct runs parallel with the hepatic duct for a variable distance (18%); (3) those in which the cystic duct winds around the hepatic duct before uniting with it (7%). Most injuries of the common and hepatic ducts arise from placing too much traction on the cystic duct and then cutting a niche or segment out of the hepatic or common duct or amputating the cystic duct too close to its junction with the hepatic duct.

The gallbladder and cystic duct consist of a mucosa, fibro-muscular coat, sub-serous and serous coat. The mucosa is thrown into graceful irregular folds to increase the surface area of absorption; a function of the gallbladder being concentration of bile. The mucous membrane of the cystic duct is thrown into five to twelve crescentic folds, namely the valves of Heister. These valves also increase absorption area and in conjunction with the S shaped neck and cystic duct may tend to impede the flow of bile from the gallbladder acting somewhat as a sphincter or valve.

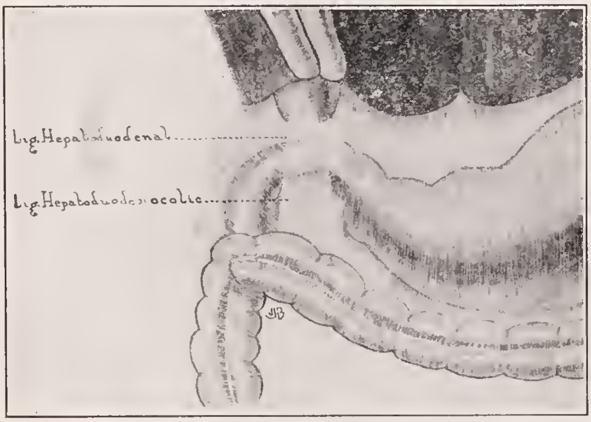

Fig. 1. Not infrequently there is found a ligament extending between the gallbladder and duodenum or between the gallbladder, duodenum and colon. Many times this is probably not due to an inflammation of the gallbladder but probably some embryological process.

The muscular layer is a definite entity and consists of three indefinite layers, longitudinal, oblique and circular.

The gallbladder and cystic duct are supplied by the cystic artery, usually a branch of the right hepatic artery. This latter artery in the larger percentage of cases passes behind the right hepatic duct and then gives off the cystic artery. In a smaller percentage of cases the right hepatic artery passes in front of the right hepatic duct. However variations of origin and relation are so frequent that it is unsafe to give percentages. The operating surgeon should be aware of possible variations so as to be able to work an analysis of the individual case. A study of Flint's series (British Journ. of Surgery 1922) of these variations is important. About 15% of cases present an accessory cystic artery and it may pass in front of the bile ducts or appear from behind the cystic duct.

The exact nerve supply and its mechanism in relation to the gallbladder is not definitely known. Complete evidence is lacking but the vagi are possibly motor and the splanchnic are possibly inhibitory to the gallbladder.

It has been definitely proven that the gallbladder has the functions historically attributed to it; that is, the storage and concentration of bile so that there may be adequate supply of bile during the early part of the meal (Boyden, Graham and others). It empties by its own muscular efforts as well proven by Boyden and Whitaker. Just what causes the gallbladder to contract during digestion is not definitely known. A definite sphincter is placed at the lower end of the common duct and probably there is a correlating mechanism between the contracting forces of the gallbladder and the inhibiting forces of the sphincter of Oddi.

Biliary tract disease is more common in women. Boyden claims that the female gallbladder though smaller than the male relative to body weight empties much faster and a more total volume during the first hour of digestion.

The fact that the gallbladder is not a vital organ is no argument against its utility. The removal of the gallbladder deprives the patient of a considerable supply of concentrated bile which intiates the digestion of meats and fat containing foods at the beginning of every meal. Since bile in the duodenum intiates flow of pancreatic juice, (Mellanby, Ivy) a plentiful discharge of bile in the early phase of a meal is significant. Probably some failures in improvement or digestive disturbances following cholecystectomy are due to the failure of a compensatory mechanism.

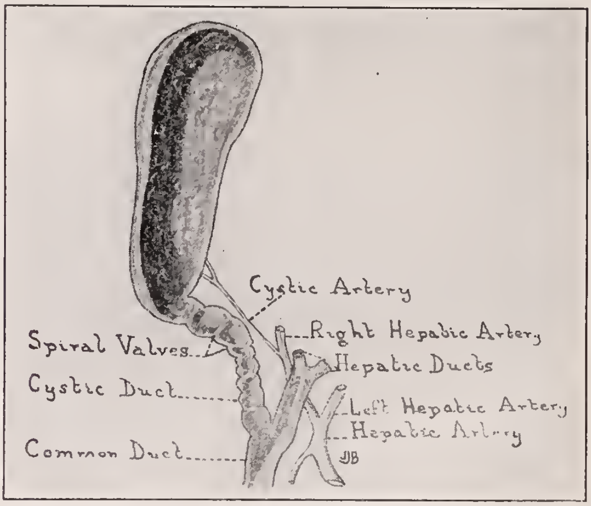

Fig. 2. The cystic artery most frequently branches off of the right hepatic artery and passes between the cystic duct and liver to the gallbladder. However this relation is by no means constant. Just where the neck of the gallbladder ends and the cystic duct begins is not definite.

"Doctor, I'd like a prescription."
"For what?"
"A fishing trip."—Louisville Courier-Journal.

REPORT OF A CASE OF HYPER-INSULINISM

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Insulin therapy in the treatment of diabetes mellitus is now so well established that little concern or worry is felt by the physician employing it. No doubt every physician here has observed the premonitory warning symptoms of the onset of a hypoglycemic reaction and has taken steps necessary to prevent its further development. The very earliest symptoms we are on the lookout for are: First, an increased desire for food; second, extreme fatigue and sudden weakness; third, an extra degree of restlessness or nervousness; fourth, pallor or flushing of the face with dilated pupils and an increased pulse rate; firth, sweating, which is particularly considered the most characteristic symptom.

The second degree symptoms: First, tremor and incoordination of the muscles; second, anxiety, excitement, feel apprehension and emotional disturbances; third, vertigo and diplopia with aphasia and amnesia. The third degree symptoms are: First, delirium and confusion; second, convulsions and collapse associated with low blood pressure, low body temperature and unconsciousness(1).

The factors particularly considered which are involved in the production of the hypoglycemia are: First, too sudden and great lowering of the blood sugar; second, a decrease of the caloric food intake with too large insulin doses. Or the insulin doses are given too close together. Third, insulin given too long before meals or the patient not given food at proper time following injection. Fourth, any failure of food absorption such as a case of vomiting or diarrhea.

In a case recently observed and handled by us, the patient did not exhibit the commoner symptoms of insulin shock with hypoglycemia. He manifested the third degree type with amnesia, tonic and clonic convulsions and epileptiform convulsive seizures.

Case history: C. Y., white, male, age 56, retired stock buyer.

Family history: One brother a severe diabetic.

Past history: Had common childhood diseases. First learned he had diabetes ten years ago while taking an insurance examination. Has followed diabetic treatment and diet irregularly and carelessly since. Has remained in fair health up to about two years ago when he had a severe attack of influenza followed by pneumonia with severe diabetic symptoms. Since then, up to present illness, has been under a more strict diabetic diet accompanied with insulin. On June 16th, patient reported at the office of Doctor Sawyer for examination. Urine examination showed a one-half of one per cent sugar, no diacetic acid, no acetone. Blood sugar was not determined at that time. He reported that he was taking 23 units of insulin, U. 40, (Lilly's), three times a day on a basic diet of 2000 calories. He was advised at that time to cut down on his diet and take on 75 units per day. He now reports that he did not increase insulin nor did he cut down on diet. Shortly after this he went on a vacation of several weeks. He did not report back to any physician during this time. On August 1st, he returned from his vacation and attended a picnic, eating a large quantity of ice cream, watermelon, and other foods rich in carbohydrates. His relatives state that during the time he was on his vacation, and just prior to his return, he became very nervous and quite irritable, which continued up to the onset of his diabetic coma.

August 3. At 6 a. m. while sleeping, the patient awoke with a scream and threw himself from the bed. He immediately lapsed into semi-coma. He would partially respond to questions when roused, but seemed to have difficulty in understanding. Temperature and pulse were normal.

At 7 a. m. twenty-five units of insulin were given intra-venously and in fifteen minutes another twenty-five were given. One-half hour later the patient talked rationally but was drowsy. He recognized relatives and friends when aroused. One hour later 25 units of insulin were given hypodermically. This was followed by a slight typical hypoglycemic reaction. The pulse increased to 100 per minute, cold perspiration, slight increase and difficulty in respiration.

At 9 a. m. about 2 ounces of orange juice were given by mouth with relief of symptoms and he remained in about the same condition until 2:30 p. m., when he awoke and was apparently normal for about thirty minutes. He conversed with visitors, recognized and talked business with his relatives and said he could remember his illness as a bad dream but could not remember previous conversations. Urine voided at this time was sugar free. A blood sugar was taken at this time and the report came back 400 milligrams per 100 cc. This was evidenty an error and should have been 40 instead of 400 milligrams.

At 3 p. m. the patient lapsed suddenly into unconsciousness and became maniacal. He threw himself about on the bed, screamed and kicked. Three or four men were required to prevent his injuring himself. Believing the blood sugar to be high, he was given 25 units of insulin at 3:15 and another 25 units at 4:15. Symptoms became progressively worse.

Morphia ¼ grain was given at 4:30 with no response and at 5 p. m. an H. M. C. was given to which he slowly responded. Except for about one hour he was not free from restlessness or involuntary muscular movements under the narcotic.

At 10 p. m. he began breathing slowly and with difficulty and gradually went into a convulsion with an extreme tonic spasm of the left arm and clonic contractions of the right arm, legs and jaws. There was marked drooling from the mouth.

Another H. M. C. was given with relief of symptoms. During the convulsion, there was only slight increase in pulse, the respirations were slowed and there was no perspiration as in the usual hypoglycemia. Ten units of insulin were given at four-hour intervals during the night.

August 4. In the morning the patient remained in a semi-comatose condition. There were no muscle twitchings. He complained of severe headache.

At 9 a. m. a specimen of blood showed 33 milligrams of sugar per 100 cc. of blood. Leukocyte count at this time was 15,000. Insulin was discontinued and another blood specimen was taken. This showed 35 milligrams per 100 cc.

At 2:15 p. m. two ounces of orange juice were given by mouth. The patient immediately went into a violent state which lasted about fifteen minutes. The orange juice was vomited during the attack. During the attack he threw himself about on the bed, gave a peculiar cry every few seconds, foamed at the mouth and had clonic contractions of jaws, arms and legs. He apparently bit the air and on two or three occasions bit his arms.

There were no hypoglcemic symptoms as noted above. An H. M. C. was given with relief of symptoms in a few minutes.

At 4 p. m. 20 cc. of 50% glucose was given intravenously and this was repeated at three hour intervals for 30 hours. Ten doses in all were given each containing approximately 10 gms. of glucose. There was a gradual relief of symptoms.

August 5. The patient was drowsy and complained of headaches, soreness of entire body, but became quite rational towards evening. Headache was partially controlled by pyramidon. He took some orange juice and glucose by mouth during the day. All specimens negative for sugar.

August 6. General condition much improved. A 1:00 a. m. specimen of urine contained 3.4% sugar. An 8 a. m. specimen, after five hours from the time the last glucose was given, showed 6.2% sugar. Blood sugar five hours after last glucose was given showed 306 milligrams per 100 cc.

All sugars were discontinued and 10 units of insulin were given at 4 hour intervals. After the third dose the urine showed 3.5% sugar.

August 7. Urine sugar free. Blood sugar 40.8 milligrams per 100 cc. Mental and physical condition much improved. No evidence of cerebral irritation. He was placed on a diet of 62 g. without insulin, orange juice ounces one every eight hours.

August 8. Morning specimens sugar free. The p. m. specimen contained a trace of sugar. Orange juice discontinued in p. m. and 5 units of insulin given.

August 9. Morning specimen contained 3.25% sugar. Eight units of insulin were given t. i. d. The p. m. specimen of urine contained 1% sugar. Blood sugar 214 milligrams per 100 cc.

At this time it was discovered that the patient bought a new insulin syringe in Omaha about July 1st and had been using U. 40 on a U. 20 scale. He had, therefore, been taking a double dosage or 138 units instead of 69 of insulin for about a month previous to the attack.

August 10. Urinary sugar ½ of 1% in p. m. only. Insulin increased to 8 units morning and noon and 10 units in evening. General condition improved.

August 11. All specimens sugar free. Blood sugar 216 milligrams.

August 12. Trace of sugar in p. m. specimen only. Diet increased to total G. of 96. Insulin increased to 12 U. t. i. d. a. c. Mental condition much improved.

August 13. Seven p. m. specimen contained .8% sugar. All others sugar free. Patient up and about.

August 14. Blood sugar 206 milligrams per 100 cc. P. M. specimen contained 1% sugar. Given 12-16 and 16 units of insulin.

August 15. All specimens sugar free. General health improving.

August 16. All specimens sugar free. General health improving.

August 17. Sugar free.

August 18. Sugar free. Blood sugar 156 milligrams per 100 cc. It is interesting to note that the patient was on a diet of 96 G. and that 58 units of insulin were required to lower the blood sugar. He was placed on a diet with total G. of 128. Gms. and on insulin dosage of 14-18 and 22 units.

Discussion of the case. As noted in the history the patient had not been seen by any physician from June 16th to August 3rd, when he was found unconscious. We do not know whether during this particular period he showed any of the commoner symptoms of insulin shock otherwise than his increasing nervousness and irritability. He had been taking, for a month previous, 138 units of insulin through the mistake of using U. 40 on a U. 20 scale with the use of his new hypodermic syringe. The third degree form of hypoglycemia with cerebral manifestations, epileptic convulsive seizures and coma was not recognized until a specimen of urine could be obtained and the blood sugar could be determined. Throughout the treatment, the relatives refused to have the patient hospitalized. The discontinuance of insulin and large amounts of glucose in the form of orange juice and glucose solution gradually relieved him of all his symptoms of hypoglycemia.

A review of the literature reveals a marked rarity of this form of hypoglycemia, therefore, we felt justified in reporting briefly our observation in this one case.

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URETHRAL CARUNCLE*

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An almost unbelievable amount of misery can be caused by urethral caruncle—burning urination, frequency, pain, soreness, tenesmus, bleeding, vaginimus and a whole train of nervous and constitutional symptoms. Jonathan Hutchison tells of paraplegia relieved by removal of caruncle, Skene says "In extremely painful neoplasms some patients give evidence of constant pain, distress, and anxiety; they are pale, emaciated, low spirited, and wish for death". Indeed, the older clinicians give caruncle more attention than does the present generation. Sir Charles Clark, in his work on "Diseases of Women", described caruncle more than 100 years ago. Sir James Y. Simpson brought it prominently before the profession. Goodell fully described it, and August Clark reviewed the literature at the ninth International Medical Congress in 1887, and added his own histological studies. Lawson Tait in noting their tendency to recur, cites a case in which for forty years it had been removed every 5 years.

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*Read before the Seventh District Medical Society meeting, Milligan, Nebr., October 18, 1928.

All have been impressed with their extraordinary sensitiveness and have sought an explanation. Emmet predicted a sympathetic nerve supply, but no nerve elements are found except in the epithelium. Braxton Hicks blamed degeneration of the nerve endings. A considerable proportion are not sensitive. It is impossible not to connect the severe general nerve irritation with the proximity of the highly enervated clitoris.

Etiology. This has not been established. Neuberger attributes it to gonorrhea, but admits having seen cases in which gonorrhea was excluded. The fact that caruncle practically always occurs on the lower margin of the meatus, just where Skene's ducts open, gives support to the casual relation of ruptured cysts of these ducts.

Chronic irritation has been proven to play a part through the palliation afforded by cleanliness, and bland urine. Infections of the urinary tract higher up do not predispose to it.

Pathology. Caruncle occurs at any age from 6 to 90. It is most common in married women of middle life. It is a vascular polyp, according to Virchow; a mucous membrane wart, according to John B. Murphy. Grossly it is a vascular tumor, pin head to raspberry in size, sessile or pedunculated, generally single, located nearly always on the posterior rim of the female urethral meatus. It is red, congested, more so at menstruation, bleeds easily and is often exquisitely sensitive.

Histologically it is composed of tufts of capillaries in a fibrous and muscular stroma, infiltrated according to its degree of inflammation with mono and polynuclear cells. No nerve elements have been demonstrated except in the squamous epithelium. This is often ulcerated.

Edward L. Young (1915) reported 19 cases, 5 of which were malignant. Of these three were traced four to eight years later, and only one had a malignant recurrence. The general experience would not point to so high a proportion of malignancy. Of a larger series in which removal had been by cautery or excision, one-third had benign recurrences. All have noted a large proportion of recurrences.

Crenshaw, reporting his clamp and cautery method of removal in 1920, had had 118 cases with four recurrences. It may be, however, that, since patients lived at a distance, all recurrences were not reported. A later report by him states that recurrences are not many. Cases have frequently been reported in which the growth had appeared again and again.

Diagnosis. It must be differentiated from: (1) Prolapsed urethral mucosa, which will be seen to pout completely around the meatus. Also it can be replaced. In cases of prolapse after a previous operation, the pouting will be irregular, but the replacement should still be possible. Shortening of the urethra may be apparent on endoscopy. (2) Varicosities. These are bluish, elastic, and reduced under compression. (3) Condylomata. They are warty, multiple, and painless. (4) Cysts of Skene's glands. (5) Solid tumors of the urethra. Fibromas and carcinomas of the urethra are rare. They are firm and are apt to extend up the urethra. Carcinomatous glands may be present.

Treatment. The conditions to be met are: (1) Complete eradication. (2) Restoration of the urethra to normal, avoiding striction or pulling down of bladder neck. (3) Preserving a specimen for histological study. (4) Making the procedure simple, the inconvenience least.

Various methods of treatment have been used, but as emphasized by John B. Murphy, *the essential of all is the complete ablation of that part of the basement membrane bearing the tumor.* If it is left, the tumor will recur.

Pinching, snaring, ligating, cutting, cautery by heat or acids, fulguration, and other methods have been used. Few lesions of such distressing symptoms have been treated so unsurgically by surgeons. Instance of a well qualified surgeon cauterizing a caruncle with a soldering iron and leaving a stricture is reported. A case is reported in which repeated excisions of a scar had drawn the trigone of the bladder outside.

Kelly, Murphy and many others have advocated excision and when skillfully done, leaving circumferential mucosa, it is useful, particularly in the extensive sessile type. It has the advantage of getting beyond the farthest margin and of preserving tissue. But it is a hospital procedure with an uncomfortable and prolonged convalescence.

Fulguration is widely used, but is apt to burn unnecessarily deep, leaving a heavy scar, which separates, leaving a wide granulating surface to slowly epithelialize. Repeated fulgurations are often necessary.

Cautery by heat has the same objections, and acids are even less subject to control.

A very satisfactory method for all but the broadly sessile type is the clamp and cautery method suggested by Crenshaw in 1920. The procedure can be carried out in the office. The patient is placed in the lithotomy position, and, after soap and water cleansing, local anesthesia is obtained by a 10% cocaine jelly swab in the urethra for a few minutes. An assistant separates the labia, the urethra is dilated and the growth defined. The caruncle is picked up with a fine forceps and clamped beyond its base with a miniature hemorrhoid clamp. The protruding caruncle is cut off, preserved for section, while the cut edge is cauterized with 15% acid of nitrate of mercury on a swab. Lateral tags are treated in the same way.

As a modification of the method Ferrier had found it at times desirable, if the tumor is sessile, to hold it with more than one fixation forceps, in order to draw it all in the clamp. And in order to avoid the uncertain control of the acid caustic, he prefers a small electro cautery such as is used by nose and throat surgeons, searing the cut edge exactly as in the clamp and cautery operation for rectal hemorrhoids. He uses infiltration anesthesia.

The advantages he claims for his method are:

(1) It is a simple office procedure.

(2) It is painless with local anesthetic.

(3) The field is not obscured by bleeding.

(4) Immediate relief is obtained.

(5) A specimen is available for microscopic diagnosis so that malignancy can be recognized and appropriately treated.

(6) On account of the narrowness of one or more longitudinal scars a minimum of epithelialization is necessary, healing is prompt, cicatrization light, and subsequent deformity avoided.

(7) Recurrences are few.

PILOTS AND THEIR MEDICAL EXAMINATIONS*

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Since time immemorial, medicine has gone hand in hand with every industry that has been developed. Each has made special demand of our profession to meet the requirements of progress in any branch of industry or occupation. Sanitation, industrial medicine, public health service, workman's compensation and many more examples may be cited where special medical knowledge has been called upon to instruct, supervise and conserve the resources of health connected with the success of any venture, being developed.

Capital and labor cannot be secured in any new occupation till there is assurance that special medical service is cooperating with them, thus making preventative medicine the best insurance of all, and for this reason aviation medicine has been created.

The army and navy medical departments have done much to point the way and lay the foundation; but it has devolved on our Chief, Dr. Louis H. Bauer, Medical Director of the Bureau of Aeronautics to place aviation medicine in the high position it holds today and second to no other in the same field of endeavor.

Financiers back up, and corporations hesitate, because this gigantic industry cannot be mastered like others of a dissimilar nature. The insurance companies are becoming more liberal upon the high standard of aviation medicine, this department has adopted, and today straight flying is no more hazardous than the automobile.

First, the plane is inspected, tested and flown by an expert sent out from the department, before it can be licensed.

Secondly, the pilot must meet the requirements in schooling, flying, mechanics, and have the required number of flying hours for the kind of license he wishes to receive.

Third, he must pass the physical examination required for his classification.

There are three classes: Transport, Industrial and Private. Most student pilots aim to qualify for transport.

The transport pilot must have 10 hours solo flying in the past 60 days.

Industrials, 25 hours in the past year.

Privates, 10 hours in the past year.

The transport pilot is the only one permitted by license to carry passengers, and is examined semi-annually, others annually.

The industrials carry mail, express, freight, or engage in other industrial activities.

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*Read before the Seventh Councilor District Medical Society meeting, Milligan, Nebr., October 18, 1928.

The private pilot is licensed for his own recreation only.

This brings us to the physical examination, the object of which in the chief's own words, is to select for the various classes of flying only such persons as are physically and mentally qualified for such work, and to change the classification or remove promptly from flying those who may become temporarily or permanently unfitted for flying because of physical or mental defects.

The eyes for transport pilots must be normal or very near perfect. Any serious pathology is disqualifying, the slightest defect requiring a waiver. In the other classifications slight defects with correction to normal may be permitted, depending upon the pathology found.

The tests include the use of test charts, colors, prisms, perimeter, opthalmoscope and the Howard-Dolman depth perception apparatus.

The ear. Internal ear trouble, mastoids and perforations unhealed are disqualifying.

Nose and throat. Any pathology that interferes with breathing is disqualifying. Congenital defects must be repaired and syphilitic infection excluded.

Equilibrium, gait, position, and habits are recorded.

History of diseases, head, neck, spine, extremities, chest, lungs, heart and blood vessels are examined for pathology.

Urinalysis, blood pressure, gastrointestinal tract and the central nervous system with a host of subdivisions covering reflexes, station, tic, tremor, insomnia, amnesia, phobias, elation and depression, etc.

In fact, it is the most rigid and complete examination required today upon entering any field of industry.

Therefore, it would indicate, without going into more elaborate details, the desire of this department to create safe and sane flying, by appointing skilled healthy pilots of mature judgment and sound mind.

This is as it should be, since the strain of a new environment, visibility, and working in a different perspective with regard to objects familiar on the ground makes an exceptional physiological demand upon orientation.

Prospective students should take their examination first and see if they fit the classification desired. It may save a big disappointment and conserve his time and money and schooling.

We cannot all be Lindbergs, but since aviation is progressing by leaps and bounds there are unheard of opportunities developing.

The successful flight of the new dirigible will stimulate transcontinental and oceanic travel.

Today 25,288 miles are flown daily with mail.

There are 32,042 miles flown daily in all services.

Passenger service is fast becoming established.

For further information I would refer you to "Aviation Medicine", by Dr. Louis H. Bauer. Published by Williams & Wilkins Co., Baltimore, Maryland.

DIARRHEAS OF THE AGED—WITH CASE HISTORIES*

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I have chosen a subject that would make a volume, but I shall try to confine myself to the more common diarrheas of the aged, those that we meet often and some that we see seldom.

Diarrhea is characterized by the passage of liquid stools and according to Cabot may be caused in relative frequency as follows:

1. Acute enteritis.
    a. Cryptogenic (concealed origin). five-sixths of the cases.
    b. Specific (typhiod, dysentery, cholers, toxic disturbances, one-sixth of cases).
2. Chronic enteritis.
    a. Cryptogenic, nine-tenths of all cases.
    b. Of known causation (digestive insufficiency) one-tenth of cases.
3. Cancer of the intestine.
4. Pernicious anemia.
5. Mucuous colitis.
6. Intestinal neuroses and exophthalmic goiter.
7. Tuberculosis.
8. Fat intolerance.

Any of these could come late in life but we most often see diarrheas of digestive origin, intestinal neurosis, cancer of intestine and, of course, infectious. When we find five-sixths of the acute enteritis and nine-tenths of the chronic enteritis are of cryptogenic, or concealed origin, we readily see how important macroscopic examination or direct gross examination of the feces is for revealing highly serviceable information. It is as essential as uranalysis, taking the temperature, or examining the pulse.

The patient should always be ordered to collect and keep feces for examination and the appearance should tell us this:

Undigested food: Acute indigestion, excessive peristalsis.

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*Read before the Seventh Councilor District Medical Society, Milligan, October 18, 1928.

Fats: Fatty stools, fat in oily droplets, spherules or larger fatty masses (affection of the liver and pancreas).

Blood: Red, hemorrhoids; black, melena.

Intestinal shreds: dysentery.

Blood stained, glairy material: neoplasm.

Pus: Infectious or neoplastic enterocolitis—mucus and membraneous formations—mucomembraneous entercolitis, intestinal neuroses.

Mucus and membraneous formation: mucomembraneous enterocolitis, intestinal neuroses.

Intestinal Sand: mucous entercolitis.

This is an illustration of the value of only a macroscopic examination of stools. This considered with a medical history, other clinical data and examination of individual organs will generally lead promptly to a correct diagnosis.

In puzzling cases it should be supplemented with a microscopic, chemical and bacteriologic examination of stools which is frequently indicated.

Also in persisting cases, x-ray and proctoscopic examinations are indicated.

In advanced ages we often find constipation alternating with diarrhea—an illustration of lack of intestinal tone improper intestinal and liver secretion. This condition is corrected only by careful attention to diet and supplementing where necessary the indicated stomach and intestinal juices.

The neoplasms, of course, in the advanced aged are serious. The patient is usually a poor surgical risk and in such patients comfort is about all we can hope to attain. But general health good, operation is to be thought of only after carefully weighing the patient's chance to recover.

Most of the infectious types yield to bismuth salts and opiates with interruption of food and restricted water. My usual prescription in the simple infectious types being milk of bismuth and tincture opii camphorata equal parts. Typhoid and cholera are more serious and require a very definite regime. In the amoebic dysenteriform diarrhea acute and chronic, Ravant and Maute have demonstrated the selective action of emetine and of arsphenamine in these cases.

CASE HISTORY

August 1. Mrs. A. Age 84. American housewife.

Chief Complaint: Intestinal pain and cramps and watery stool every twenty to thirty minutes beginning two days before.

Family history and past history negative as to bearing on present trouble.

Physical examination:

Head, neck and chest: negative.

Heart: good except occasional extra systole.

Abdomen: very tender and painful.

Further Physical examination: negative.

Stools: slimy, dark colored, mucus shreds very watery.

Diagnosis: Dysenteriform Diarrhea. Prescribed castor oil oz. 1, followed with milk of bismuth and tincture opii in equal parts with teaspoonful dose every hour.

Restricted foods: boiled water given.

August 2nd. Little change in condition.

August 3rd. Resting some easier; bowel movements every one and two hours.

August 4th. Bowel movements more often—Castor oil ℥1 and milk of bismuth ʒ1 every hour—papine ʒ1 every two hours.

August 5th. Patient decidedly weaker—stools every thirty minutes. Macroscopic: Mucus shreds. Decided to give emetine hydrochloride one grain hypodermically.

August 5th. One grain emetine hydrochloride in morning and one grain in evening. Continued with bismuth and papine, every four hours.

August 6th. Bowel movements about every forty-five minutes—one grain emetine hydrochloride morning and evening.

August 7th. One grain hydrochloride morning. Discontinued papine. Bowel movements one to two hours.

August 8th. One grain emetine hydrochloride morning. Bowel movements every two and three hours. Cramps less and taking milk and poached egg.

August 9th. One grain emetine hydrochloride—six stools that day.

August 10th. Patient able to take more nourishment, markedly improved.

August 11th. One grain emetine hydrochloride, making total eight grains emetine hydrochloride in seven days. Patient made uneventful recovery and in two weeks was able to be about as usual and no more bowel trouble.

Final Diagnosis: Amebic dysenteriform diarrhea.

SUMMARY

1. The importance of a macroscopic examination of stools in diarrhea.

2. Attention to causative factors noted.

3. The importance of giving emetine hydrochloride in all persistent diarrhea up to eight grains in a single course.

DELINQUENCY AND CRIME*

THOS. L. HOULTON, M. D.,
Omaha, Nebr.

Psychiatry is that branch of medicine which has for its object the treatment, understanding and prevention of mental disorders, abnormal behavior, and defective development of the personality. For many years, because of the few physicians engaged in the work, the location of asylums, the poor facilities, and the meager finances, psychiatry has been obliged to content itself with treating and caring for these conditions, and has lacked adequate means for a comprehensive and thorough study of their causes. Abnormal conduct and anti-social behavior, regardless of the source, has always been the field of operation for the psychiatrist. But, his practical function until the last twenty or thirty years, was not to prevent the development of maladjusted individuals, but to care for these individuals after their disorder had so far advanced that they were already confined to state penitentiaries or asylums.

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*Read by invitation of the Omaha Council of Social Agencies at the Jewish Community Center, December 5, 1927.

The advancement in knowledge of the etiology of abnormal behavior has been slow. Its progress may be divided into two periods; the first dating from the time that mental disorders were first recognized as a disease and extending until about thirty years ago. This period saw very little advancement save the beginning of the development of better housing facilities and a kindlier attitude toward those who were mentally afflicted. The second period dates back but twenty-five or thirty years. During this period there has been more constructive progress than ever before; and the psychiatrist has transferred his efforts from the study of well advanced and incurable cases in the state hospitals to the understanding of incipient behavior disorders found in the out-patient clinics, the general hospitals, the courts, the schools, and the homes. As the work has progressed, it has, for obvious reasons, concentrated its efforts upon the study of children rather than adults.

Prevention of mental disorders instead of after-care is the key-note of much of the work being done by the newer psychiatrists.

There are now a greater number of physicians concerned with psychiatry. They are working along entirely new lines and are located in the cities in close association with other physicians, where they are accessible to the homes, the schools and the courts, instead of being isolated in asylums in out of the way places.

The lack in the past of accessibility of psychiatrists and the few men interested in the work, a field which is by no means overcrowded as yet, has been, I think, the greatest single handicap to the advancement of psychiatric knowledge.

The psychiatrist differing from most other specialists, is not interested in single organs of the individual, such as the teeth, the tonsils, the kidneys, the lungs, etc., nor is his work confined to a separate compartment of the brain. He is interested in the entire economy of each individual, both mental and physical. He is interested in his heredity, his environments, his habits, his mental capacities, his physical capacities, his instincts, his emotions, his religion, his morals, and, in short, all the forces that operate to make that individual what he is, normal or abnormal, different from all others. It is for this reason that psychiatry, as a branch of medicine, is connected with crime, for crime as everyone knows, does not spring from a single source, but in origin is as variable as life itself.

The behavior of the mentally diseased and the criminal do not follow the same pattern, but they do spring from related roots in the mal-adjustment between the individual and his environment. The behavior of each is the expression of some inborn defect in the makeup of the individual, or, is the result of some experience or contamination to which he has been subjected.

If anyone doubts the relation of crime to mental diseases, he need only to read the many reports of psychological surveys of the inmates of reformatories, penitentiaries, and the like, as the majority of these investigations reveal easily recognized and rather advanced psychiatric problems. It may readily be seen, from these reports, that most of the existing machinery dealing with delinquency is set up to handle end results and immediate needs, and that there is little of a curative or preventive nature in it. I recently read in the newspaper of an Omaha man who had been arrested for drunkenness one hundred and eighty-eight times in the last nine years, or on an average of almost twice a month. His repeated arrests did not stop him from becoming intoxicated, and indicates that such cases for the most part are being cared for by persons concerned with the immediate situation, and not directly interested in the fundamental reasons why they are so frequently delinquent.

The present rapid advancement of psychiatric ideas was not brought about by physicians, but resulted from pressure brought to bear by lay-persons who were directly interested in bettering the standard of treatment of patients in mental hospitals, and indirectly interested in the etiology of their conditions. In 1909, after many make-shifts and trials at separate state organizations, a practical functioning central unit was organized under the name of the National Committee for Mental Hygiene which has for its object and purpose (in part) to cooperate and affiliate with all state societies and committees organized to work for the conservation of mental health, to secure and disseminate reliable information on these subjects and also on mental factors involved in problems related to industry, education, dependency, delinquency, and the like. In the few years this organization has been in existence it has demonstrated conclusively that it is a powerful factor in promoting the welfare of the insane, by bringing about a broader and more rational interest in true mental functions than was ever before, manifested in this country.

At the present time there are a few groups intensively studying the cause and prevention of delinquency. The best organized and probably the most active, is that of Doctor William Healy, who began his work in Chicago in 1909, and who is at the present time director of the Judge Baker Foundation of Boston. This clinic and the clinic of Dr. Herman Adler of Chicago, and the work being done in some other cities by the Division on Prevention of Delinquency, supported by the New York Commonwealth Fund, are dealing for the most part with incipient juvenile delinquent problems and are slowly formulating constructive ideas as to the treatment of such.

A review of the records of the Neuropsychiatric Department of the Creighton Dispensary show that they are handling more delinquent children and potential delinquents than ever before.

This, I think, is due to a better organization of the Social Service Department in the Dispensary. The written histories received from the various agencies interested in these cases indicate a progress in organization, as such complete histories can only be obtained by trained and experienced workers.

Because of its final outcome, I am going to give the history of one boy who was recently examined in the Creighton Dispensary:

> He gave the history of having been arrested or placed in industrial schools seven times between the ages of ten and eighteen years. The causes of these arrests were: Running away from home, stealing from peddlers and ten cent store counters, attempting to break into a store for the purpose of stealing guns, buying articles on credit, and associating with immoral persons. At the time of examination, he stated that he was opposed to work and that when he had a job he did his work in such a manner that his employer would discharge him—he always wanted to be discharged. He freely admitted that he enjoyed peeping into bedroom windows, and following women on the streets. He enjoyed reading crime and detective stories in the newspapers, and spent much time day-dreaming of bank robberies. He stated he would rob a bank without fear; could use tear-bombs and would shoot his way out if cornered. He was not very enthusiastic over small robberies of stores and the like. At this time it was advised that he be committed for mental observation. While waiting for the arrangements to be made, he disappeared. A few months later the following short notice in a newspaper of a neighboring city gave the final history in the case: "A. C., who told police he came from Omaha, died in an emergency hospital here from the effects of poison. He had been arrested as a suspicious character. He was found to have on his person a black mask, a toy revolver, and a box of tablets. He was placed in jail, being allowed to keep the tablets. He was later found unconscious and subsequently died. It was discovered that he had taken several of the tablets."

There is no knowing the crimes that may have been prevented by the fortunate or unfortunate outcome of this individual.

Psychiatry alone can do very little in the field of prevention of delinquency, but in cooperation with the courts, child clinics, social service and welfare organizations, psychiatric studies and examinations are invaluable. A few of the important principles established by psychiatric research are:

First: That there are definite causes which produce abnormal behavior, and that these causes are to be found in the physical, mental, and social life of the individual. Having once been found, they can in many instances be removed or alleviated.

Second: That the line of attack upon delinquency is in the prevention rather than in the possibilities of radical cures after it has developed.

Third: That much delinquency can be prevented if problems of behavior are recognized and adequately dealt with in early childhood and not ignored in the belief that these traits will later be "outgrown".

Because of its location, size, industries, type of housing facilities, schools, boy scout units, and number of supervised play grounds, for which the city is indebted in a great extent to the efforts of Professor Earl Sublinger, formerly of Omaha University, the child delinquency problems of Omaha are different from those of other cities. However, progress in prevention can be made only through a slow and careful study of every child who is a repeated offender in the courts, or whose behavior is causing unusual concern in the schools, the child clinics, or the homes.

PRACTICAL WINDOW FOR TRANSMITTING ULTRA-VIOLET RAYS

A. H. Pfund, Baltimore (*Journal A. M. A.*, July 7, 1928), describes a practical window for transmitting ultraviolet rays which will be good for at least a year and which can be replaced at a cost of 25 cents. The transparent material chosen for the window is cellophane. At the present time cellophane windows are not on the market. It is believed, however, that they will fill a real want, and it is therefore suggested that charitable organizations, such as the visiting nurse associations and municipal departments of health, procure a supply of cellophane, get in touch with a carpenter who will make the frames, and, finally, bring the matter to attention of those who are in need of it.

HABITUAL DISLOCATION OF SHOULDER

Following a failure from the tenosuspension operation, it occurred to W. B. Carrell, Dallas, Texas (*Journal A. M. A.*, Sept. 17, 1927), that a combination of reefing and suspension would have the greatest opportunity for success. It was done as follows: The biceps tendon was exposed through an anterior incision extending to a point one-half inch below the tendon of the pectoralis major. The biceps tendon was sectioned at the lowest level and reflected from its sheath up to the point where it emerges from the capsule. The distal end was fastened into the coracoid head of the biceps. A strip of fascia 6 or 7 inches long free end of the biceps tendon. A posterior incision was then made, extending from the acromion downward on the posterior surface of the arm 4 inches. The deltoid separated, and the teres minor was exposed. The biceps and fascial strip was now passed under the neck, penetrating the capsule, in and out, at two points; it was threaded on a special instrument fashioned like an aneurysm needle. The instrument hugs the capsule and emerges just above the teres minor, where it is secured through a drill hole in the acromion. The arm is dressed by the side, and motion is gradually resumed after three weeks with free action after ninety days.

PROTECTIVE ACTION OF CONVALESCENT POLIOMYELITIS SERUM

The protective action of convalescent poliomyelitis serum is discussed by Simon Flexner and Fred W. Stewart, New York (*Journal A. M. A.*, Aug. 11, 1928). They suggest that, in the event of severe outbreaks of epidemic poliomyelitis, convalescent human serum be employed to afford passive protection to persons, children especially, menaced by the disease. The quantity of convalescent serum to be injected subcutaneously can be determined accurately only by actual observation. Since epidemic poliomyelitis is a disease of low incidence, this determination is not one which is readily made. It is suggested that the dose for young children be 11 cc., and for older children and adults, 20 cc. Should the epidemic outbreak become severe and endure for many weeks, the repetition of the injection at the expiration of from four to six weeks might be considered. As the serum injected is human serum, disagreeable reactions should not occur. It is hoped that, if poliomyelitis occurs in individuals previously injected with convalescent serum, the precise facts of the occurrence will be published for future guidance and information.

PROLONGED INSULIN HYPOGLYCEMIA WITHOUT SYMPTOMS

In connection with some experiments on the corpuscle-plasma distribution as related to insulin shock, S. J. Maddock and Harry C. Trimble, Boston (*Journal A. M. A.*, Sept. 1, 1928), were partially impressed by the length of time that hypoglycemia can exist before symptoms appear. Experimental evidence shows that, following insulin administration, the blood sugar of diabetic patients and depancreatized dogs may remain at levels of 50 mg. per hundred cubic centimeters or below for from one to six hours without symptoms. Such periods may or may not be followed by hyperglycemic reactions. They believe that this phenomenon, whose dangers are evident, is probably frequent in occurrence; that it usually is unrecognized, and that it may account for the difficulty so often encountered in regulating the administration of insulin. It is tempting to the authors to reason by analogy that if continued high blood sugar overstrains the pancreas, continued low blood sugar may over rest it.

SKIN ERUPTIONS WITH PHENOBARBITAL (LUMINAL)

The three cases reported by William C. Menninger, Topeka, Kan. (*Journal A. M. A.*, July 7, 1928), are the only cases in which the skin rash appears in approximately 400 cases in which phenobarbital has been used. From the data at hand, no relationship can be drawn between the amount of the drug and the weight of the patient. Phenobarbital may produce an urticarial reaction, or it may produce a scarlatina-like or morbilliform maculopapular erythema. In approximately 50 per cent of the reported cases of the latter condition there has been an associated pyrexia and other systemic toxic symptoms. In the face of the widespread usage of the drug, the number of cases showing such a toxic reaction must represent a very small percentage. A distinction should be made between the toxic reaction and the poison reaction. In the former, many of the cases do not show any particular relation to the dosage of the drug, and skin reactions have appeared frequently on small doses. It seems to Menninger that the cause must be a selective tissue reaction to the drug, dependent on constitutional factors about which we are still ignorant.

Out of the mouths of babes and sucklings shall also come buttons, safety pins, tennis rackets, or anything else that might have been lying around.

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DELEGATE, COUNCIL ON MEDICAL EDUCATION, A. M. A.

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Note: In case of suit notify secretary at once.

Seasonal Greetings

"A Christmas of happiness, New Year of joy,
Without any sorrows or griefs to annoy;
Abundance of work—which you like—day by day,
A path leading upward along a bright way;
Enough earthly treasure to meet all your needs,
Each day as it passes filled full of good deeds."

THE OMAHA MEETING OF THE MISSOURI VALLEY MEDICAL ASSOCIATION

With a program rarely equalled, perhaps never excelled, of the newest in scientific advance, with the meeting advertised to four thousand physicians in the trans-Mississippi country, the registration at the meeting in Omaha a month ago barely reached 250. One wonders at the apparent apathy of the great number of medical men toward medical society work. A medical society meeting is always a part of a liberal education. No one can attend a medical meeting without carrying away something. Many of the discourses were highly technical, but even then, little things cropped out that are of value to the least of us.

Dr. Vernon C. David of Rush Medical College, has proven that the film exudate thrown out in peritonitis is protective and is to be regarded as such in operative procedures. Dr. Leonard Rowntree of the Mayo Clinic, speaking on liver diseases, said that calomel given in hepatic jaundice relieves the itching within 24 hours, as has been repeatedly proven at the Mayo Clinic. Dr. P. C. Jeans of the Iowa University Medical College, speaking on "Recent Developments in Metabolism of Children," accentuated the propositions that fasting relieved epilepsy and that the ketogenic diet as a measure for relief was well demonstrated. He also stressed the proposition that milk, fruits, vegetables, as a diet for children prevents caries of teeth and that the same diet consistently given will aid in healing carious teeth. Space forbids giving the golden kernels in all the papers. Those who attended do not need to be told and the above is enough for those who remained away to see that they missed something unusual. There were 21 papers on the program, all of the same high order.

The Nebraska State Medical Journal in open session offered to publish all the papers read at the meeting and a number have been received in response to the offer.

Among Nebraskans on the program were Drs. A. C. Stokes, Alfred Schalek, Robert Schrock, James F. MacDonald, Father N. Nichels, Omaha.

Dr. Ralph Major, Kansas City, was elected president, and Dr. Earl C. Sage, Omaha, was reelected secretary-treasurer. The next meeting will be held at Iowa City.

CHANGES IN THE NEBRASKA COMPENSATION LAW

From the viewpoint of the medical profession the present Nebraska Compensation Law is fairly satisfactory. The majority of the benefits arising to the workmen will be settled by the Labor Commissioner in a satisfactory manner. Few cases will go by appeal to the district courts.

Three parties are mainly involved: The employee, the employer, and the physician who cares for the employee. The insurance companies settle the payment of the costs and the manufacturers in turn pay for the insurance. In between falls the medical profession. The only objection, at this time, is from the Manufacturers Association, which claims that the costs are excessive and must be reduced or the law will fail. It also states that Iowa has a cheaper rate and its law works perfectly. We have studied the costs in other states and find it hard to agree that the costs in Nebraska are excessive, at least the costs for medical and hospital benefits. Be that as it may, the manufacturers have been before the commission, appointed by Governor McMullen, and are asking for that body to sustain them in their demand for a revision of the laws during the next session of the legislature, placing a lower limit on the fees to be charged by the hospitals and physicians. Thus the medical profession is caught between the upper and nether millstones of the insurance companies and the manufacturers.

It has been almost offensively presented, by the Commission to Survey Nebraska Compensation Laws and the Labor Commissioner and Manufacturers Association, that the medical profession has grafted and thus caused embarrassment in the settlement of cases and in the administration of the law. The answer has been that some physicians may have presented exorbitant bills, but that the rank and file of the profession are honest and will show as clean a cross-section as any of the parties involved. It is also maintained that the real burden of the law falls on the medical profession and that it must receive adequate compensation. It must have an unprejudiced hearing in the courts set up if the best men in the profession are to give their services and the employees to receive average compensation. It has not been a pleasant task to go before these various individuals representing the great bodies involved. There is a certain amount of class feeling against the medical profession, largely reflecting a narrow viewpoint, that is so often experienced by a clean, progressive physician employed in the public welfare. However, the Nebraska State Federation of Labor has demanded that the employees shall have first-class service and that they shall be cared for in keeping with the dignity of an honest wage earner, not as an object of charity, and that the medical fee shall be commensurate with the services. Thus the medical profession is not without a friend in court and the alignment of forces brought to bear to amend the law may, after all, be favorable to its welfare.

The medical profession will be well cared for if the present law is unchanged, if no limit is placed on the medical fee, and if the Commissioner as at present adjudicates the settlement of fees, with the right of appeal left to the doctor who may be dissatisfied with the settlement. This appeal may be taken when there has been an unreasonable allowance made for his services. The proposal for a change is made to provide for a commission to serve without pay, consisting of: (1) One member to be appointed by the governor, on nomination by the Nebraska State Medical Association; and likewise (2) one from the Nebraska State Federation of Labor; and (3) one from the Nebraska Manufacturers Association. An unreasonable allowance for medical fees shall be the only basis of appeal, and from the commission appointed the physician shall have a right to go to the district court if he so wills.

While this matter is of great importance to the medical profession, in a monetary way, and in an effort to maintain its right before the law, yet, after all, the biggest task this winter, before the legislature, is to maintain our present Medical Practice Act, including the Basic Science Law.

—E. W. Rowe.

A NEW DOUGLAS COUNTY HOSPITAL

The medical profession in every community has indisputable obligations to the public at large. For many years the Omaha-Douglas County Medical Society has tried to awaken public interest in alleviating the problem of the sick poor, by increasing county hospital facilities. A study of Douglas County Hospital conditions soon revealed that inadequacies existing at present could be obviated only by the construction of at least two new buildings, a wing for the tuberculous and a structure for the better care of mental patients.

However, general indifference, fear of increased taxation together with the lack of appreciation of present serious deficiencies interfered with any attempt that had hitherto been made for a change for the better. The lack of co-operation between layman and physician here again provided complications which are bound to arise in matters pertaining to public welfare especially in the field of public health.

The medical profession has been doing everything possible to elevate the standard of service to the sick—rich and poor alike—as shown by the increased requirements, for graduation from reputable medical schools, hospital internships for every graduate following his student days, and lastly, the highest quality of service to every patient in every hospital.

Two per cent of the population of a city such as Omaha are at all times ill enough to need medical attention; many should be hospitalized. The cost of ill health is an amount equal to the cost of public education, and is three and one-half per cent of the city's, state's or the nation's respective total income.

But Douglas County has not kept abreast with the times in the care of its "submerged tenth". The rich and middle class patients have been taken care of in Omaha private hospitals most efficiently. Omaha hospitals have about twenty-two hundred beds and take care of about thirty-five hundred patients annually. Approximately six million dollars are spent directly or indirectly by doctors and their patients in this community. Omaha, however, has continued to neglect its sick poor; and the Omaha-Douglas County Medical Society, for twenty years has endeavored to bring this great problem to the attention of the public. Douglas county, a county having the second lowest bonded indebtedness of any county in the United States of equal size, has an institution for the care of the sick poor that was erected forty years ago. In that institution there is at the present time room for only twenty-six tuberculous patients. The Visiting Nurses' Association has on its books, one hundred fourteen tuberculous patients, who should be hospitalized at once. The mental ward at the County Hospital has been one hundred per cent overcrowded for many years. There has been no adequate provision made for contagious diseases, veneral diseases, diseases of children or obstetrical cases.

The Commercial Club has realized this situation, and has worked with the Medical Society for the past three years, attempting to awaken the public conscience to this crying need and has co-operated in a campaign of education that has been carried on at the suggestion of the County Commissioners. Talks have been given by members of the Speakers' Committee of the Omaha-Douglas County Medical Society before fifty lay organizations. Human interest stories have been prepared for the newspapers in this locality, including the foreign language press. Eighty thousand leaflets setting forth the facts about the county hospital, have been sent out by the department stores, druggists and doctors, stating the urgent need of a new county hospital. As a result of this work, the citizens of Douglas County on November sixth, by a majority of three to one, voted bonds in the amount of seven hundred fifty thousand dollars, to be used in the erection of a tuberculous wing, a mental wing, and the remodeling of the present structure, so as to take care of obstetrical cases, venereal diseases, and diseases of children.

Some philosopher has said that the only definite progress shown by the human mind in the past five thousand years, has been in that sense of human obligation, that has resulted in the hospitalizing of the sick all over the world. The care a community gives its sick poor is an index of its civic conscience. Omaha's civic conscience has been awakened; and Douglas County will in the future adequately take care of its indigent sick. The tremendous vote given for this project, on the recommendation of the medical profession, is evidence to our minds of the confidence the public places in the profession. It is hoped that in the future, much more than in the past, civic organizations of various types will look to the medical profession for advice in matters that directly or indirectly have to do with questions concerning the public welfare and public health.

The election returns on the county hospital bond issue are an indication of the modern tendency to a better understanding between the public and the medical profession with consequent mutual benefit to both. We like to interpret the results as a vote not only for a better county hospital but as a vote of confidence in the exponents of modern scientific medicine as well.

—Frank Conlin.

THE TREATMENT OF TABETIC OPTIC NERVE ATROPHY

Just as tabes in general has been the despair of practically all neurologists, syphilologists and malariologists, so tabetic optic atrophy has reign-ed in undisputed sway with the eye-man. Now comes Mauksch in the *zeitschrift f. Augenheilkunde,* Aug., 1928, 336; with the report of five cases which he has treated by the so-called permanent anemia (Daueranaemie) which Herzog has recommended for retro-bulbar neuritis. This is done as follows: After cocainizing the membrane of the middle meatus, he introduces a strip of gauze twenty to thirty centimeters long, dripping wet with the stock solution of adrenalin, through the whole length of the middle meatus, allowing the anterior end to come down so low that the patient can reach it and pull it out after two hours. This is done twice a day, about twice a week, and if no decided improvement occurs soon, Mauksch then opens the sphenoid and ethmoid cells even where the latter show no sign of being infected. These procedures are based upon the work of Herzog, who has obtained very marked results by their use in retro-bulbar optic neuritis. The effects of the adrenalin are supposed to depend not on the anaemia immediately produced, but on the secondary congestion; and Mauksch assumes that the opening of the normal ethmoids and sphenoids acts in the same way. His results in five cases have not been brilliant, but in all but one, some improvement has been obtained; either positive, in the form of better sight or larger fields; or relative in a cessation of the deterioration.

In the same sort of forlorn-hope fight we must regard the work of Fazakas and Thurzo, and Horn and Kogerer (*zeitschrift f. Augenheilkunde,* April, 1928, 378), based on the suggestion of Lowenstein. In the fight against tabes in general and its optic atrophy in particular, they, after drawing off variable amounts of cerebro-spinal fluid, have been blowing air into the canal; following this with intensive salvarsan treatment intravenously. The results, as in the cases of Mauksch, have been moderate rather than inspiring and have been based upon the belief that it may be possible by some such method to break down the resistance to the passage of salvarsan, etc., from the blood vessels into the cerebro-spinal cavities. Horn and Kogerer also have a definite impression that the effects of malarial infections for cerebro-syphilis are decidedly improved by the injection of air up to 60 cc. into the spinal canal.

The pursuit of such unpromising paths of investigation is not generally appreciated. The results are meagre and the applause not great, but if only one case of optic atrophy out of ten from tabes, or any other form of cerebral syphilis, can be kept from going blind, these men deserve our sincere gratitude. —H. Gifford.

SOME EARLY DAY PROFESSIONAL CONTACTS (Continued)

In my very early professional career I harbored the delusion that wearing heavy clothing in winter in the open country was a sign of effeminacy. I made several trips on a slow pony 17 miles in the country when it was 12 below zero without leggings to protect my limbs and without a fur or other, heavy, overcoat. The bill amounted to $18.00, to which the man strenuously objected. I told him if he paid it I would throw off a dollar. He made me wait a whole year and then demanded the discount I had offered!

Later when I had prospered enough to have a team of ponies and a buggy I offered my saddle and bridle for sale. A farmer bought it, but wished me to wait until he sold his hogs. I was desperately in need of cash but waited—and waited, until the sucking pigs grew up and were sold, about a year.

I was called to care for a fractured thigh of a hired man who had slid from a load of grain and was run over. After placing a splint and extension dressing on the patient and making a second call, the folks with whom patient was living told me I need not come any more. I remonstrated, told them the limb needed daily care for a time and then the periods could be lengthened. They were insistent, told me they did not see that I did much to the limb on my daily visits—they could do that. I then drew up a release, reciting that, inasmuch as they felt they could take care of the patient, they would release me from the case and from blame if the results were not good in the end, and they signed it. The man acquired a permanent deformity and lameness.

I was called to minister to a patient out of my immediate territory about a three-fourth day trip from my office. A relative begged to accompany me to the home of the patient. We reached the house at noon. The relative who accompanied me was given his noonday meal, but I was not offered anything.

I attended a confinement case 12 miles from home on an early fall morning; and was through with my work by six a. m. The neighbor woman asked if I would have breakfast to which I assented since I wanted to feed the horses before returning and breakfast after several hours work was always welcome. It was some time before I realized what was going on. The neighbor woman had killed a chicken after asking me if I wished breakfast, baked some biscuit and made the gravy famous among the Virginia people as "big sop",—an excellent breakfast, but I had to wait longer than was my wont—for I was always in a hurry, and I did not like to make people extra work.

I early developed the theory that a reputation for promptness would be a valuable asset, and cultivated the habit all my active years. About five one afternoon I received a call four miles out and as I did not like to miss the evening meal I asked my wife to prepare me a hurried meal and fed the horse before going. When I got to the house I found the patient suffering rather more than I had anticipated and my conscience began to hurt at the delay I had caused. The rather large family was at the supper table. The housewife asked whether I would have supper. Not wishing to confess that I had eaten I said I would take "pot luck" with the boys when I got the patient relieved. 'Oh, no", she said, "we will fix you some supper in the other room", and proceeded to make a spread on the parlor table such as they would make for the priest! That evening I had to eat two meals to conceal my guilt!

A minister called me to the bedside of his wife who was hysterical and sleepless, so it was reported. On close inquiry the minister admitted that in a heated argument he had knocked her down. He never paid for the visit.

John J. was an illiterate, but shrewd and wily German homesteader, and his wife was mildly confused, mentally. They had a number of children only one of whom was of normal mentality, and two of them were at different times confined in the state hospital for the insane. One of these was Pete. Pete liked machinery and was apt in repairing it. John J. accumulated much property and cautiously handled it himself. None of the boys of whatever age handled any money and none were paid wages. If they needed shoes or clothing the father purchased and paid for it. He was a heavy feeder of cattle and hogs and profited thereby. He conceived the idea of hoarding some of the profits in a secret cache rather than trust it all to the banks. For several years, when his shipping remittances came, he asked his banker to give him a certain portion of it in twenty dollar gold pieces. In this way he accumulated a hoard of $5,000 at home. A new house had been built to replace the homestead frame one. The gold pieces placed in an old cooking pot were buried under the floor of the old house, presumably with the knowledge of the parents only.

The automobile age came along and the auto appealed very strongly to Pete's mechanical inclinations. The father would not buy one. One morning Pete was missing from home. He appeared in town early in the morning, purchased a collar and tie from a clothier, and paid with a twenty dollar gold piece. He purchased a ticket for Omaha with a twenty dollar gold piece. Toward the end of the week he appeared in town with a Fuller automobile. The father, always a friend of mine, edged up to me and asked what such a car would cost. I told him at least $800 I thought. He shrugged his shoulders and remarked: "I'll never pay for it, I'll never pay for it". To which I replied that cars were sold only on a cash basis and that he had paid for the car or he would not have it. The father said Pete did not have any money and could not have paid for it. I again asserted that only with money in hand could he have bought a car. The old gentleman became quiet and reflective. An inquiry in Omaha brought out the fact that Pete had paid for the car with twenty dollar gold pieces. The following day the father came to town, with Pete as chauffuer, and filed a complaint against Pete for stealing the pot of gold. An uncle gave bond and Pete was released and went to live with the uncle. The charge was dropped after I suggested to the father that he probably could not make out a case against Pete and after I suggested that in making a will he give Pete $5,000 less than the other children. On his deathbed he asked me to make his will in accordance with our conversation, which I had done by an attorney. Pete never divulged the whereabouts of the $5,000 in gold.

WHY LAUGH?

"Ho! Ho! Ho! Ha! Ha! Ha!" shouted two negro porters in a reechoing city station. They punched each other, slapped their sides and went off into spasms of laughter. They caught their respective breaths and then went off again. They started to speak and doubled up. Pretty soon everybody around them was laughing. With no idea of what the joke was, old men and children, bored society ladies and tired business men all caught the infection and while their audience was not as noisy in its merriment, everybody was put into a happy mood.

That was a good example of the truth of the saying: "Laugh and the world laughs with you".

Man has been given the privilege of laughing. Animals never laugh. Even the donkey who says "Hee Haw!" is really not laughing and grins on animals' faces do not mean that they are enjoying a joke. Animals are really a serious lot. Children laugh easily. The mirth of school boys and girls, so often irritatingly silly to grown-ups is really a sign of health. Wholesome giggling goes with natural youth. Why should we feel that as we grow older we should laugh less? Environment often makes a difference and the habit of laughing usually runs in families. Why is it a good habit? Why should we not derive as much benefit as possible from this privilege of enjoying laughter?

We know that laughter is mentally good for us. The relaxation, the lifting of a temporary depression, the realization that we are perhaps not so badly off—we have all experienced mental stimulation from a good laugh. We all take ourselves too seriously sometimes and we all, at times, have felt positively ill through concentrating on a seeming ailment. Just turn the mind onto something funny and our laughter banishes those ingrowing worries.

BUY CHRISTMAS SEALS

WOULD you buy Christmas Seals if you knew they had helped to reduce the tuberculosis death-rate? In the past twenty years the death-rate has been cut in half—a saving of more than 125,000 lives in the year 1928 alone. "Buy Christmas Seals," for they are fighting tuberculosis every day of the year.

Christmas Seals give protection to your friends, to your family—and to you!

The National, State, and Local Tuberculosis Associations of the United States

We have not heard so much about the physical benefits of laughter—but they are present. An eminent physician has said "laughter affects the large and most important organs of the body in such a way as to modify their functions in the direction of the stimulation of them. As a result laughter has a distinct place in the realm of the maintenance of health. Those who laugh the most are the ones that live the longest and enjoy the best health". Our organs more or less rest upon each other. Our heart and lungs rest on our diaphragms. As we grow older we do not jump about much and give these organs exercise enough. Laughter serves as exercise for them. They need the jerky vibration that comes with the convulsive movements of the diaphragm during a good hearty laugh.

The heart is stimulated by laughter. This blood pumping organ needs muscular exercise in order to do its work adequately. The circulation becomes more active and while it used to be an old-fashioned idea that the heart should receive little physical interference we now know that it will stand a great deal. It is meant to be stimulated by the various activities of the body. A lazy heart is very bad.

We all know, too, that the liver needs to be "shaken up" at frequent intervals. Bile is manufactured in the liver and it must be kept flowing freely. Bile is a necessary aid in the digestion of food. A sluggish liver will not manufacture a sufficient flow and digestion will not be efficient. That is why it is good to laugh during and after meal time. The stomach, the pancreas, the spleen and the intestines also are benefited by the up and down movements of the diaphragm to stir them up. Laughter improves the digestion and often is an excellent substitute for laxative medicines.

The lungs, however, are the organs most affected by laughter. Large drafts of air are drawn in and out of the lungs during the process and in that way they receive exercise. The chest is also expanded, increasing the air content, sometimes by one-half more than normal. Gusts of laughter increase the intaking of breaths. That is why people with tuberculosis who must rest their lungs in order for them to heal are not advised to breathe too deeply nor to indulge in hearty laughter.

Laughter, then, has a real therapeutic value. It must be remembered, however, that laughter alone will not cure organic sickness. You cannot laugh off germs. The laughter that comes from within is the best tonic in the world and that can come only when a person has no submerged worries.

In order to be sure of your health why not let your doctor decide? Have a physical examination periodically and be sure of your health. It is even better to know a bitter truth and have a chance to rectify matters than to stew and fret about the unknown. The worrying mind can never derive the proper benefit from a good, hearty laugh.

To teach the need for periodic physical examination in order to do away with worrying minds is one of the ways the National Tuberculosis Association and its affiliated associations believe they can get the best of tuberculosis. They conduct their annual sale of Christmas seals in December.

—Elizabeth Cole for the National Tuberculosis Association.

EDITORIAL PARAGRAPHS

About one thousand American physicians attend clinics in Vienna each year.

This number completes Volume XIII of The Nebraska State Medical Journal.

Science for November tells us to pronounce citrate, sit-rate; salicylate, sal-i-sil-ate.

It is quite remarkable that for two months no deaths have occurred in the ranks of the medical profession of Nebraska.

"Old Masterpieces in Surgery", by Dr. Alfred Brown, Omaha, in a limited de luxe edition, will be off the press about December first.

Rocky Mountain Spotted Fever is now amenable to vaccine treatment. Of 1500 cases vaccinated during the past year but one died.

The death rate per hundred thousand decreased from 913 in 1926 to 836 in 1927, according to the United States department of Commerce report.

Rear Admiral Cary T. Grayson (retired) has become president of the Gorgas Memorial Institute and will devote his entire time to memorial activities.

Credit organizations are being formed in various parts of the state through the instrumentality of an agency. The plan looks good and ought to produce results. Northeast Nebraska is pretty well organized as this is written.

The American Dental Association has established a bureau of chemistry to examine and pass upon the value of preparations offered to the dental profession and to the lay public, as remedies for dental ills.

The *Journal A. M. A.*, tells us that the Board of Tax Appeals has decided that a physician may deduct in his income tax computation expenses incurred in attending medical society meetings; reversing thereby the decision of the Commissioner of Internal Revenue.

Dr. R. V. Brokaw, field representative of the American Society for the Control of Cancer, spoke at various important points in the state last month on the cancer problem. Lay audiences were entertained in the afternoon and the medical profession at evening meetings.

An inquiry to the *Nebraska Farmer* about a certain self styled specialist was answered by that paper in part as follows: "It is a rule you may safely follow that any medical man who travels from place to place in order to secure patronage, is unable to secure that patronage by remaining in one location. Persons who are efficient in medicine are able to have their time fully employed at home and do not find it necessary to shift from place to place."

An interesting experimental study in "Self Selection of Diet by Newly Weaned Infants", is being carried on in Chicago by Dr. Clara M. Davis, *Am. J. Dis. Children,* for October, 1928. A variety of natural foods are set before the children and they are helped, if necessary, to that which they indicate they want. Nothing is suggested to them and nothing forced on them. The experiments carried on for six months so far seem to indicate that infants of weaning age are able to select their own foods in proper quantity to maintain themselves with apparent optimal digestive and good nutritional results. They are omnivorous and in eating are governed not only by their caloric needs, but showed definite preferences, which, however, changed from time to time and were unpredictable.

The new Medical Center of New York City, when completed, will consist of the following units:

College of Physicians and Surgeons of Columbia University.

School of Dental and Oral Surgery of Columbia University.

DeLamar Institute of Public Health of Columbia University.

New York State Psychiatric Institute and Hospital.

Presbyterian Hospital of New York.
Presbyterian Hospital School of Nursing.
Squier Urological Clinic.
Harkness Private Pavilion.
Neurological Institute of New York.
Babies' Hospital of New York.
Sloane Hospital for Women.
Vanderbilt Clinic.

At the present time the following hospital and clinic facilities are available at the Medical Center:

The Stephen V. Harkness Pavilion for private patients is in complete operation.

All the services of the Presbyterian hospital are in full operation, including the newly organized Squier Clinic which is the department of urology. Pending the removal of the Babies' hospital to the Medical Center a modest pediatric service is also being operated by the Presbyterian hospital.

Sloane Hospital for Women is in full operation, private patients being cared for in specially adapted floors of the Harkness Pavilion.

All the branches of Vanderbilt Clinic, representing medicine and surgery and their several specialties, are in full operation.

The clinics of the School of Dental and Oral Surgery have been recently opened at the Center, patients being received through a central admitting unit used in common with Vanderbilt Clinic.

The Neurological Institute and the Babies' Hospital are in complete operation in their old locations and will not remove to the Center for several months. Upon their removal all of the pediatric and neurological services at the Medical Center will come under the direction of these two institutions.

The New York State Psychiatric Institute and Hospital is continuing at its present location on Ward's Island until its new building at the Center is ready for occupancy in 1929.

MEDICAL PROFESSION OF WESTERN HEMISPHERE TO CONGRESS IN HAVANA

The next congress of the Pan-American Medical Association will be held in Havana, Cuba, from December 29, 1928, to January 3, 1929. The program which is being arranged by the President, Dr. Fred H. Albee of New York City, will be a strong one, and will include four orations, upon the subjects of surgery, medicine, pediatrics, and tropical medicine.

Dr. William J. Mayo will give the Oration on Surgery, and Dr. Lewellys Barker of Johns Hopkins University the Oration on Medicine. Papers will be read in both Spanish and English.

This congress will be representative of the medical profession of the entire Western Hemisphere. Chapters of the Association have been and are being organized in various centers of North America and Central America, as well as in the Antilles, all of which will be represented at the Congress.

One of the recent accomplishments of the Pan-American Medical Association is the establishment of the Pan-American Hospital in New York City for the benefit of the Latin speaking people.

A large attendance is solicited.

SYPHILITIC THERAPY.

The Journal of Chemotherapy for October, (Volume V, No. 3), contains an interesting article on "The Chemotherapy and Biologic Therapy of Malignant Tumors" by Dr. John A. Kolmer. There are, also, articles on "The Chemotherapy of Protozoan Infections Other Than Syphilis," "Syphilitic Therapy," and "Liver Treatment in Secondary Anemia," also, "New Views on Chemotherapy of Cancer," editorials, abstracts, and therapeutic news

This quarterly journal will be sent gratis to physicians interested in chemotherapy, research and the treatment of syphilis. For copies address the Dermatological Research Laboratories, 1720 Lombard Street, Philadelphia, or the Abbott Laboratories, North Chicago, Ill.

THE GORGAS HEALTH CALENDAR

Issued by the Gorgas Memorial as a daily reminder of our beloved hero in sanitation who made possible the Panama Canal; our great Surgeon General who kept our boys fit in the great war.

The modest profits from the sale of the calendar become a part of the Gorgas Memorial Endowment Fund, and will carry forward in perpetuity the following program: (a) Eliminate unnecessary illness; (b) Prolong life, make it healthier, more productive and enjoyable; (c) Co-operate with the family physician in conserving health; (d) Furnish authentic health information to the public; (e) Promote periodic health examination.

The Calendar for each day contains a Health Maxim by an outstanding man in medicine, philosopher, or statesman; the only known digest of health maxims published, of which the following are specimens (to appear with the author's name):

"A good diagnosis is worth many shot-gun prescriptions."

"Add life to your years as well as years to your life."

"Knowledge is power in health matters just as it is in business."

The specially designed stand—size 7¼x4½ inches—is handsome, sturdily built, mahogany finish, equipped with rubber feet. It will be a very appropriate holiday gift. Enclose names of your friends with your remittance, and we will send calendar direct, prepaid, and enclose your card. New pad for 1930 may be secured through Gorgas Memorial.

The cost, stand and pad complete, delivered to you, is $2.50, not more than the ordinary stand and pad; yet intrinsically many times more valuable. (See order blank below'. Only a limited number available. Send in your order immediately, delivery to be made about December 1, 1928.

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Please send, prepaid.....................Gorgas Health Calendar(s) complete at $2.50 each, for which I enclose remittance of $......................... Calendars to be sent to enclosed list.

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THE SOCIETIES

The Republican Valley and Tenth Councilor District Medical Society meeting was held at Ingleside State Hospital, October 25. About seventy-five physicians and their wives attended the luncheon given at the noon hour. The officers elected are Dr. R. B. Campbell, Franklin, president; Dr. Lothar F. Egan, Hastings, secretary; Dr. H. S. Andrews, Minden, treasurer.

The program follows: R. E. Schrock, M. D., Omaha, "Fractures;" Hal Smith, M. D., Franklin, "Rectal Emergencies"; C. R. Spicer, M. D., Hastings, "Birth Marks."

The Eighth Councillor District Medical Society met at O'Neill, October 17. Some interesting cases were presented and Joseph DeLee's films on obstetrics were shown by Dr. E. C. Sage of Omaha. A banquet at the Golden Hotel followed the regular meeting.

Officers elected are as follows: President, Dr. J. W. Gill, Chambers; secretary-treasurer, Dr. J. P. Brown, Stuart.

The twenty-second annual meeting of the **Fifth Councilor District Medical Society** convened at Fremont, November 15. Following is the program: Dr. H. Winnet Orr, Lincoln, "The Prevention of Infection following Bone and Joint Operations and Compound Fractures," with plates; Dr. H. B. Lemere, Omaha, "Sinus Disease in General Practice," with plates; Dr. Donald McCrae, Council Bluffs, "The Management of the Diabetic, from a Surgeon's Viewpoint;" Dr. S. A. Swenson, Oakland, "The Ultra-Violet Ray: Its Nature, Application and Dangers;" Dr. John F. Allen, Omaha, "Pathology and Prognosis of Pulmonary Tuberculosis," with plates.

Following the fellowship dinner attended by 72 persons, Dr. Harold Gifford, Omaha, gave an interesting talk on his trip from Cape to Cairo, last winter, supplemented by a moving picture of an elephant hunt witnessed by the doctor.

The **Madison Five Counties Medical Society** held its October meeting at Newman Grove on the 23rd. About thirty were present at dinner served by the Woman's Club. Dr. G. Alexander Young, Omaha, was the guest of honor and gave a lecture on the Malarial Therapy of Paresis. Dr. Young's observations and experiences in the cases treated give much promise.

The **Otoe County Medical Society** met at the Frontier Hotel, Nebraska City, November 12. The program follows: Dr. Wm. N. Anderson, Omaha, "Myocarditis;" Dr. Frederick Langdon, Omaha, "Infection Treatment of Varicose Veins;" Dr. Francis Bean, Supt. University Hospital, Omaha, "Legislative Issues;" Dr. W. H. Scoines, Omaha, "Amiodoxyl Benzoate Treatment in Arthritis."

—J. P. Gilligan, Jr. Sec.

HUMAN INTEREST TALES.

Dr. Charles L. Nutzman, an Omaha product, has located at Seward.

Dr. David Cloyd announces his association with Dr. Francis W. Heagey, Omaha.

Dr. and Mrs. E. A. Steenberg, Aurora, returned from a European trip last month.

The Nebraska Association of Medical Women, held its semi-annual meeting at Lincoln, October 27.

Dr. Perry Allerton, Tilden, attended the American Legion convention at San Antonio in October.

Seeley hospital, Minden, has been opened by Dr. H. S. Andrews. It will be open to the profession.

The marriage of Dr. Thomas L. Weeks, Nebraska City, and Miss Ethel Kingsley, Minden, is announced.

The Campbell clinic at Norfolk is completing a new building in old English architecture that is to be complete in every respect.

Dr. Joseph Pollard and wife, New York City, visited the former's parents Dr. and Mrs. C. W. Pollard, Omaha, over Thanksgiving.

Dr. B. F. Bailey, Lincoln, was elected vice president of the American Inter-professional Institute at the annual meeting held at Lincoln in October.

Drs. A. E. Cook and Stuart H. Cook, Randolph, are treating themselves to a new suite of offices housing most of the modern equipment and conveniences.

Dr. Earl Langford, native Omahan, returned some time ago from fifteen months spent in the Arctic as surgeon for the Rawson-MacMillan Field Museum Arctic Expedition.

Dr. E. W. Fetter, a former practitioner of North Platte, after taking a postgraduate course in Chicago and spending some time on the Pacific coast has located at Gothenburg.

A reorganization of the College View Sanitarium and Hospital resulted in a staff composed of some of the most prominent medical men of Lincoln, with Dr. Stanley Clements, as chief of staff.

HE HAS GONE

By J. S. Gilbert

Close the door—across the river
He has gone.
With an abscess on his liver
He has gone.
Many years of rainy seasons
And malaria's countless treasons
Are among the many reasons
Why he's gone.

Bind the wasted jaw up lightly—
He has gone.
Close the sunken eyelids tightly,
He has gone.
Chinese gin from Bottle Alley
Could not give him strength to rally.
Lone to wander in Death valley
He has gone.

In his best clothes we've arrayed him;
He has gone.
In a wooden box we've laid him—
He has gone.
Bogus Hennessey and sherry
With his system both made merry;
Very hard he fought them—very;
Yet he's gone.

Down the hill we tramp once more, friends;
He has gone.
Once again we've see all o'er, friends;
He has gone.
Let us hope we may endure, or
At least our taste be surer—
Let us pray the liquor's purer
Where he's gone.

EFFECT OF MORPHINE ON FUNCTION OF NORMAL AND PATHOLOGIC KIDNEY

The work reported on by Ira R. Sisk and William S. Beyer, Madison, Wis. (*Journal A. M. A.*, June 30, 1928), was undertaken primarily for the purpose of determining the safety of administering morphine sulphate in quantities sufficient to insure comfort to patients who had been subject to operations on organs of the genito-urinary tract, and who had some impairment of the kidney function. The results were sufficiently constant to justify the following conclusions: 1. Morphine sulphate, given in the usual therapeutic dose and repeated every four to six hours until the patient develops toxic symptoms does not impair the function of the normal kidney. 2. Urologic surgical patients may be given morphine sulphate in the usual therapeutic doses without fear of impairment of renal function.

Doctor: "I can't prescribe whiskey unless I am convinced that you need it."

Student: "I've got a blind date with a girl my aunt wants me to take to the Prom."

Kind Doctor: "How much do you want?"—Penn Punch Bowl.

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ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, January, 1928 No. 1

Calcreose

A Good Expectorant

CALCREOSE is effective as a stimulant expectorant in the treatment of chronic bronchitis and other bronchial affections, as well as in tuberculosis because it presents the well-known therapeutic effect of creosote in a form that is more agreeable to the patient.

Calcreose can be administered in large doses over long periods of time with little or no disturbing effects on sensitive stomachs. In cases where slight discomfort may be experienced, tolerance is rapidly developed by starting with a small dose and gradually increasing it.

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BROWN COATED
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Calcreose: A powder, containing approximately 50 per cent beechwood creosote in chemical combinations with calcium.
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PROFESSIONAL men know that only years of training qualify one for his profession, and also that years of experience are necessary to produce good business judgment.

Your accumulation of years should be entrusted only to experienced hands.

The Trust Department of this company is directed by qualified men who will be glad to advise you without charge.

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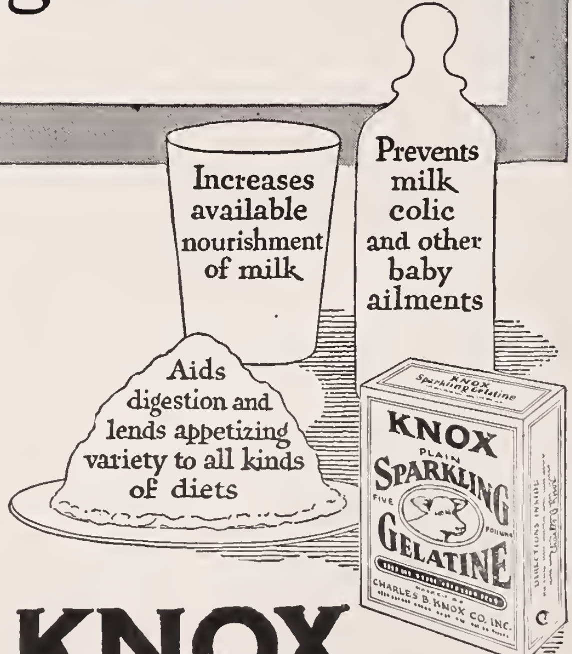
In cases that require high protein feeding ....Knox *Sparkling* Gelatine is extremely beneficial....Provides valuable nourishment *in* appetizing dishes...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CHARLES B. KNOX CO. INC.

WHEN, in your practice, you prescribe for children and adults who are undernourished, who need high protein feeding—consider the value of Knox Sparkling Gelatine! In its content Knox Gelatine is 86% protein, 1% calcium phosphate, less than 0.1% of fat, the balance being natural moisture, with a total absence of carbohydrates.

And, aside from its high protein content, there is another advantage in prescribing Knox Gelatine. Being absolutely pure and plain, without flavoring, coloring or sweetening, it may be combined with all kinds of nutritious fruits and vegetables, to make dishes that arouse genuine appetite and make it a pleasure for patients to eat the nourishment you prescribe!

Knox Gelatine yields four protein calories per gram.

May we send you our book of recipes—our suggestions—our reports for physicians? They should be of some value to you in your diet work.

'Please write us -- complete information and recipes are available

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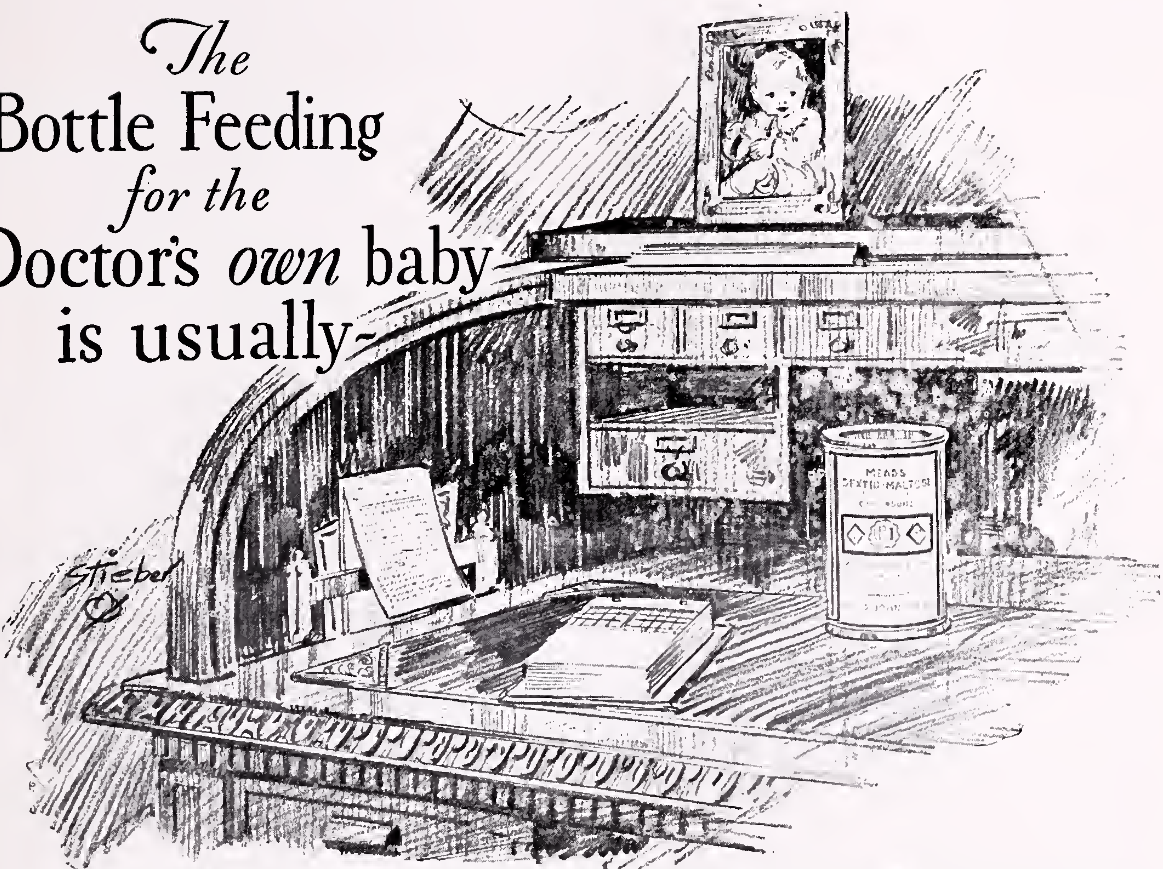
From raw material to finished product Knox Sparkling Gelatine is constantly under chemical and bacteriological control, and is never touched by hand while in process of manufacture.

The Bottle Feeding *for the* Doctor's *own* baby is usually—



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The doctor knows the importance of breast milk in relation to infant feeding. It is "the voice of nature" calling for a healthy, well-nourished infant.

The absence of breast milk constitutes an emergency in the life of every infant. When such an emergency comes to the doctor's own infant, it is significant how many physicians unhesitatingly turn to the best known substitute for breast milk—namely cow's milk, water and Mead's Dextri-Maltose.

That this form of carbohydrate—Dextrins and Maltose—combined with cow's milk and water, gives the best results in infant feeding, is the experience of physicians, whether in general practice or whether this practice is confined to pediatrics exclusively.

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INFANT DIET MATERIALS EXCLUSIVELY

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THE MEAD POLICY

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & COMPANY, *Evansville, Ind.*

Makers of Infant Diet Materials Exclusively

"DOCTOR, you ask me why you should deal with my firm. I think you are sincere and not merely asking that you may tear down my arguments for the pleasure that might afford some. I believe in my house and I have many reasons for my faith.

"This sample lens, a small piece of crystal clear, finely polished and highly transparent glass, may help. At least it is a symbol of the progressiveness of the people for whom I work. This lens was the first so-called corrected lens, to be designed for the human eye. It is still the recognized leader of precision ophthalmic lenses. My firm was the first to feature it in a large way and to place adequate prescription stocks in all their branches.

"Just as we were the pioneer jobbers with the Punktal lens, so have we been pioneers in advanced optical products all along the line.

"When a new prescription specialty is perfected, we investigate it carefully and if it represents a means of advancing optical practice, we promote it fearlessly and sincerely.

"You know, Doctor, just doing the job of filling your prescriptions, even with a high degree of efficiency and economy, is not enough. The spirit in which the service is rendered is what counts.

"A spirit of friendliness, a spirit of true service, a desire to advance the profession and to make available the latest product of optical science, whether an instrument, lens, or frame, will win and retain the good opinion of men in your profession.

"The spirit of our service is winning and retaining the patronage of many of your friends. I am sure you will be listed among the customers of Riggs Optical Company soon. I am also sure that you will stay on the list for a very long time."

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Omaha, Nebraska
Pittsburg, Kansas
Pocatello, Idaho
Portland, Oregon
Pueblo, Colorado
Quincy, Illinois
Reno, Nevada
Rockford, Illinois
Salem, Oregon
Salt Lake City, Utah
Salina, Kansas
San Francisco, Cal.
Santa Ana, Cal.
Seattle, Wash.
Sioux City, Iowa
Sioux Falls, So. Dak.
Spokane, Wash.
St. Louis, Missouri
St. Paul, Minn.
Tacoma, Wash.
Walla Walla, Wash.
Waterloo, Iowa
Wichita, Kansas

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, February, 1928 No. 2

At this Season!

Compound Syrup of Calcreose

Passed by the Council on Pharmacy and Chemistry American Medical Association

A RELIABLE cough syrup is a therapeutic necessity.

Compound Syrup of Calcreose will fill this requirement to your satisfaction because —

1—It contains Calcreose—the well-known Maltbie Compound of creosote and lime which avoids gastric distress.

2—It provides the stimulant expectorant action for which creosote is famous.

3—It is a pleasantly flavored syrup—easy to take and quickly effective.

THE MALTBIE CHEMICAL COMPANY

Manufacturers of a Full Line of Pharmaceuticals

NEWARK, N. J.

COLLEGE OF PHYSICIANS
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OF PHILADELPHIA

A Suggestion to Professional Men

PROFESSIONAL men know that only years of training qualify one for his profession, and also that years of experience are necessary to produce good business judgment.

Your accumulation of years should be entrusted only to experienced hands.

The Trust Department of this company is directed by qualified men who will be glad to advise you without charge.

PETERS TRUST COMPANY

Farnam at Seventeenth

"*Diet* in the treatment of *Diabetes*" . . . let us send you this booklet - and valuable recipes

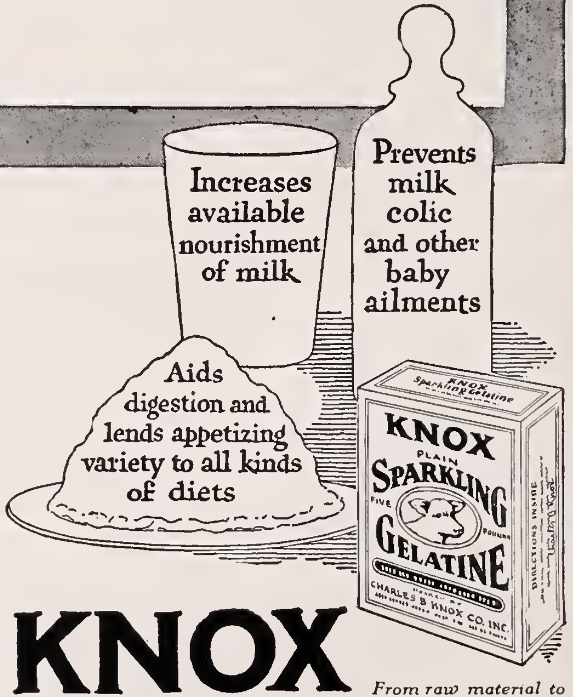
WAYS of improving the diabetic diet are always important. There are two ways to improve it—make it more appetizing—make it more effective. Monotony in the diabetic diet is its chief enemy!

Here's where Knox Sparkling Gelatine plays an important part. Made plain and pure—having no flavoring, coloring or sugar content—it is an ideal food for the purpose. It combines so deliciously with the fruits, vegetables, chicken and other foods you prescribe for diabetes—it makes them taste different—it prevents monotony from defeating the patient's appetite. And furthermore, Knox Gelatine, with its colloidal ability, makes the foods with which it is combined easier to digest—it adds health to the diabetic menu.

Knox Gelatine is a pure protein yielding four calories per gram.

We have literature and recipes, prepared by eminent dieticians, especially for the diabetic diet. May we send these to you? They are being used by many physicians with gratifying success.

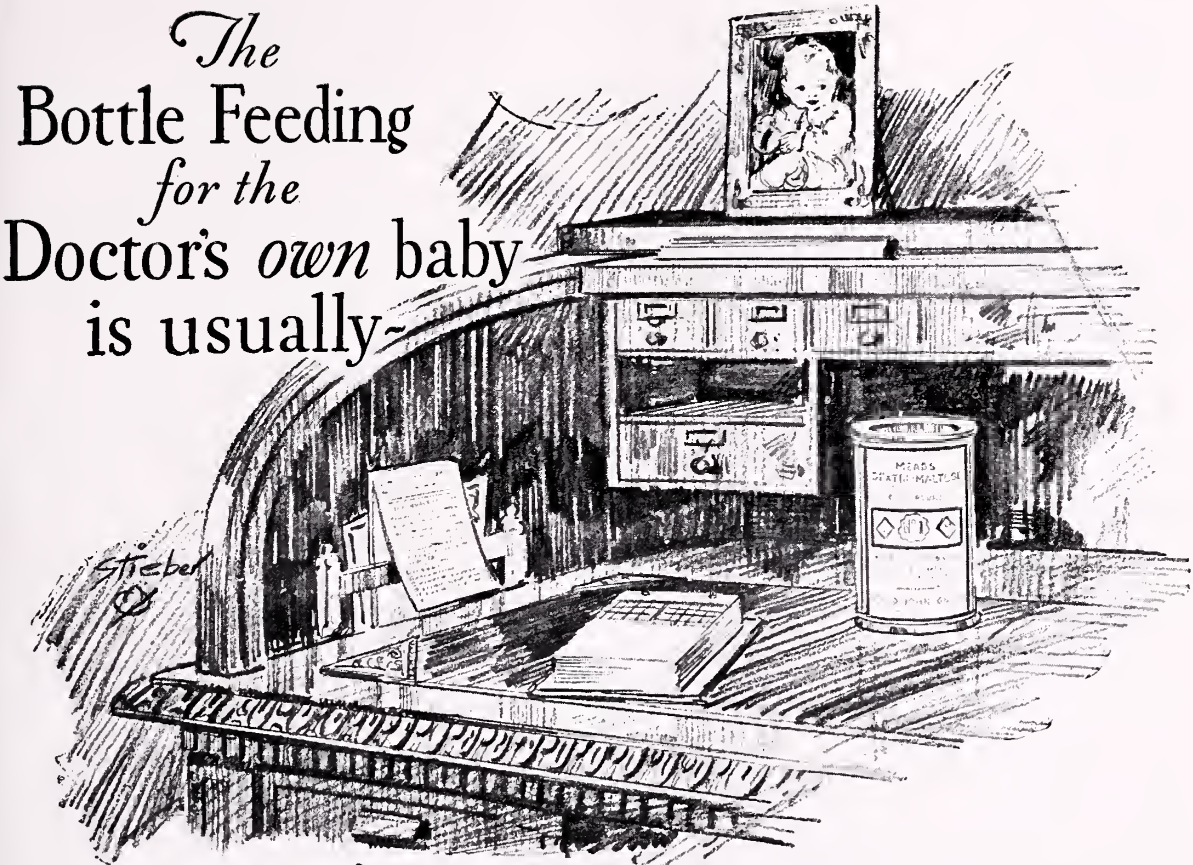
KNOX GELATINE LABORATORIES
429 Knox Ave., Johnstown, N. Y.


Increases available nourishment of milk
Prevents milk colic and other baby ailments
Aids digestion and lends appetizing variety to all kinds of diets
KNOX PLAIN SPARKLING GELATINE
FIVE POUNDS
CHARLES B. KNOX CO. INC.
DIRECTIONS INSIDE

KNOX
SPARKLING
GELATINE
"The Highest Quality for Health"

From raw material to finished product Knox Sparkling Gelatine is constantly under chemical and bacteriological control, and is never touched by hand while in process of manufacture.

The Bottle Feeding *for the* Doctor's *own* baby is usually—



MEAD'S DEXTRI-MALTOSE

COW'S MILK AND WATER

The doctor knows the importance of breast milk in relation to infant feeding. It is "the voice of nature" calling for a healthy, well-nourished infant.

The absence of breast milk constitutes an emergency in the life of every infant. When such an emergency comes to the doctor's own infant, it is significant how many physicians unhesitatingly turn to the best known substitute for breast milk—namely cow's milk, water and Mead's Dextri-Maltose.

That this form of carbohydrate—Dextrins and Maltose—combined with cow's milk and water, gives the best results in infant feeding, is the experience of physicians, whether in general practice or whether this practice is confined to pediatrics exclusively.

MEAD'S
INFANT DIET MATERIALS EXCLUSIVELY

Samples and Literature on request

THE MEAD POLICY

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & COMPANY, *Evansville, Ind.*

Makers of Infant Diet Materials Exclusively

There is a
"KNOW HOW"

TO STREAK
RETINOSCOPY

COPELAND'S Technique is imperative if one is to obtain maximum results from Streak Light Retinoscope. The adjustments on the Copeland Refractascope make necessary a special procedure in order that reflex movements may be interpreted correctly. While the new Copeland Technique is simplest of all Retinoscope methods, yet it is different.

Without a knowledge of it the streak light retinoscope does not demonstrate its greatest possibilities. Copeland's Technique is obtainable only with the purchase of his original instrument, the Refractascope. With this instrument comes a fifteen lesson course and free consultation privilege with Dr. Copeland, the inventor of the Refractascope.

Riggs Optical Company

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, March, 1928 No. 3

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Manufacturers of a Full Line of Pharmaceuticals

NEWARK, N. J.

COLLEGE OF PHYSICIANS OF PHILADELPHIA
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A Suggestion to Professional Men

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PETERS TRUST COMPANY

Farnam at Seventeenth

The experience and practice of others brings

CONVICTION

which best expresses itself in the thoughtful

SELECTION

of a policy contract, complete and clear, giving

PROTECTION

whenever and wherever the necessity arises

* * *

Are you carrying the policy selected by your Insurance Committee?

— in the —

United States Fidelity and Guaranty Company

BALTIMORE—— ——MARYLAND

BRANCH OFFICE

J. Dillard Hall, Manager; John B. Wells, Asst. Mgr.; Henry Bush, Asst. Mgr.
13th Floor Equitable Bldg., Des Moines, Iowa.

End Results in Infant Feeding

Nutritional disturbances such as Marasmus, Decomposition, Atrophy, Intoxication, etc., are usually *the end results* of mild beginning fermentative diarrhoeas. Fermentative diarrhoeas are in turn the end results of improper carbohydrate in the infant's intestines.

Carbohydrate, a portion of which is not absorbed rapidly enough, is attacked by the acid-forming bacteria which results in a diarrhoea.

This form of nutritional disturbance is often corrected in its early stages by the administration of Mead's Casec (calcium caseinate) the principal protein of cow's milk. This is in accordance with the Finkelstein theory that protein inhibits the growth of the acid-forming organisms.

But as a measure of safety in infant feeding, the use of Mead's Dextri-Maltose in cow's milk and water formulas will do much toward preventing the occurence of a fermentative diarrhoea. This is because of its greater assimilation limits (7.7 as against 3.1 and 3.6 for lactose and cane sugar respectively).

A carbohydrate so easily assimilated is, when used with cow's milk and water formulas, the greatest assurance against nutritional disturbances caused by sugar intolerances. For this reason it is used with good results in feeding the majority of well infants, and for the same reason it is invariably the clinical indication in cases of infants with weakened powers of digestion,—those manifesting *the end results* of unsuitable carbohydrate additions to their diets.

MEAD'S
INFANT DIET MATERIALS EXCLUSIVELY

Samples and Literature on request

MEAD JOHNSON & COMPANY

EVANSVILLE, INDIANA, U. S. A.

Makers of INFANT DIET MATERIALS EXCLUSIVELY

No Exaggerated Claims!

SOFT-LITE Lenses are increasing in popularity every day. We believe this is greatly due to the fact that their sponsors indulge in neither highly colored nor psuedo-scientific claims.

Soft-Lite Absorbs Glare

The name Soft-Lite is thoroughly descriptive. Soft-Lite softens light; that's all. It is not designed for special occupational uses such as arc welding, glass working, etc. Soft-Lite is a safe, comfortable, good-looking lens which absorbs glare and halation. It is made in three graded tints to serve all general purposes. Color perception is not lowered nor visual acuity diminished. Soft-Lite is not habit forming.

RIGGS OPTICAL COMPANY

Denver, Colorado
Grand Island, Nebraska
Hastings, Nebraska
Kansas City, Missouri
Omaha, Nebraska
Sioux City, Iowa

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ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, April, 1928 No. 4

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PETERS TRUST COMPANY

Farnam at Seventeenth

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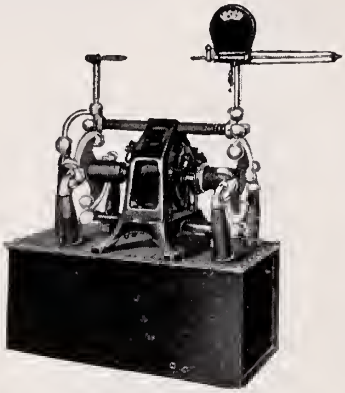
PRECISION

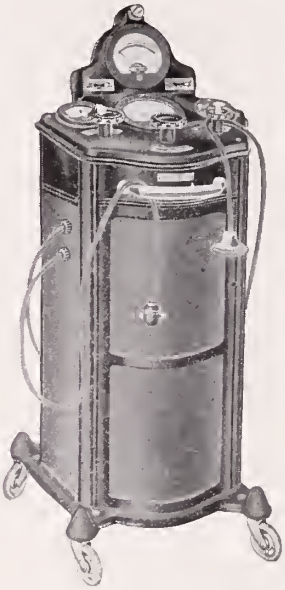
Coronaless X-ray Apparatus---

Radiographs and Treatments in One-half Time

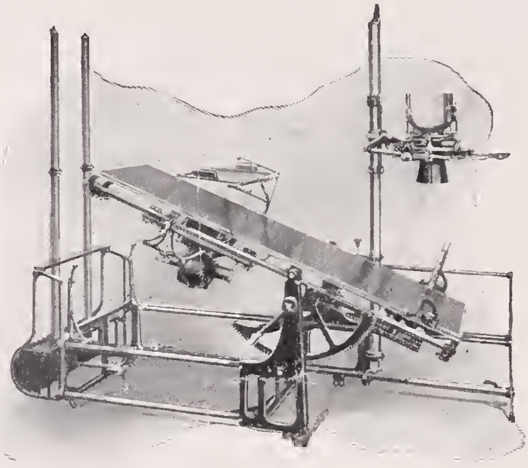


6/60 Plus Transformer

All Precision Transformers are Guaranteed by Written Life Time GUARANTEE.



Remote Precision Control Stand



The Very Latest in Combination Tables.

Write for Catalogues and Some Prominent Installations in the State and Elsewhere.

Western X-ray Co.

OMAHA, NEBR.

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Samples and Literature on request

MEAD JOHNSON & COMPANY

EVANSVILLE, INDIANA, U. S. A.

Makers of INFANT DIET MATERIALS EXCLUSIVELY

The Antidote for Glare

GLARE is an irritant which produces an ocular fatigue and strain similar to that caused by the average refractive error. It takes the same toll of wasted nervous energy.

Glare is found in every walk of life. It comes from the millions of brilliant light sources and reflecting surfaces with which civilization has surrounded us. The eye is seldom free from glare and just as a small refractive error will wear down the resistance of the sufferer, so will glare affect the person whose eyes are exposed to it.

Glarestrain, to coin a word, is easily corrected. Soft-Lite is the antidote for glare and is easily applied. Soft-Lite is offered in three shades and is available in all forms of single and double vision lenses.

Riggs Optical Company

Manufacturers — Jobbers — Importers

Grand Island, Nebraska
Hastings, Nebraska
Kansas City, Missouri
Omaha, Nebraska
Sioux City, Iowa
Denver, Colorado

ANNUAL MEETING, HASTINGS, MAY 15, 16, 17

THE NEBRASKA STATE MEDICAL JOURNAL

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ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, May, 1928 No. 5

FOR COUGHS and COLDS BETWEEN SEASONS
CALCREOSE TABLETS and COMPOUND SYRUP of CALCREOSE

In the more serious respiratory conditions where an efficient expectorant is required Calcreose Tablets will be most useful.

Compound Syrup of Calcreose
Each fluid ounce represents:
Calcreose Solution (N. N. R.) ---------- 160 Minims
(Equivalent to 10 minims Pure Creosote)
Alcohol ---------- 24 Minims
Chloroform approximately - 3 Minims
Wild Cherry Bark ---------- 20 grains
Peppermint, Aromatics and Syrup q. s.

For coughs requiring the expectorant action of creosote, Compound Syrup of Calcreose will fill your requirements most satisfactorily. It has a pleasant taste and is well tolerated.

Calcreose is a loose chemical combination of creosote and calcium hydroxide. It can be given in large doses for long periods without apparent difficulty.

Samples of Tablets and Syrup to Physicians on Request

THE MALTBIE CHEMICAL COMPANY
Manufacturers of a Full Line of Pharmaceuticals Newark, N. J.

A Suggestion to Professional Men

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PETERS TRUST COMPANY
Farnam at Seventeenth

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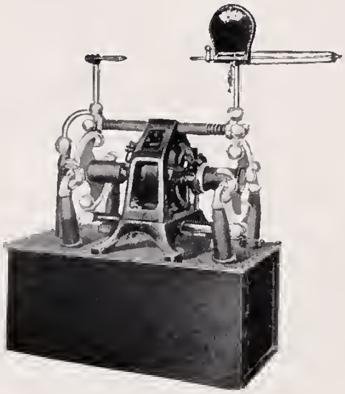

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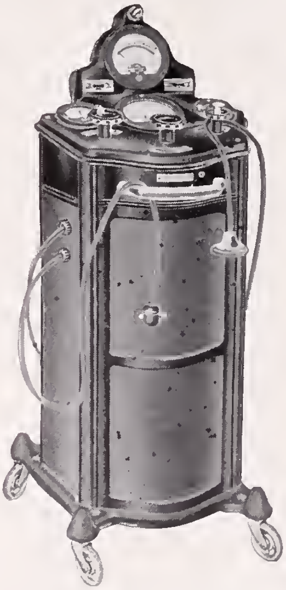
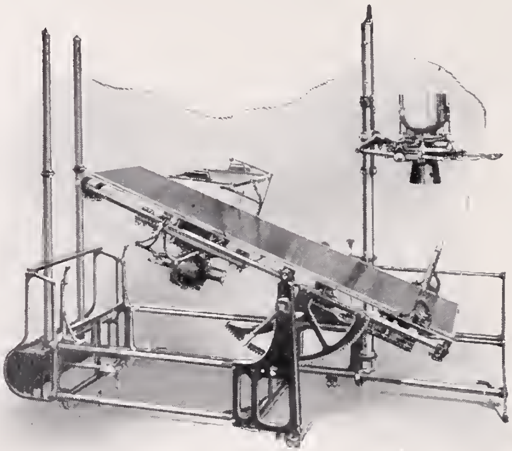


Remote Precision
Control Stand



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Western X-ray Co.

OMAHA, NEBR.

The Back Seat Driver *in* INFANT FEEDING

THE ethical policy of supplying infant diet materials to the medical profession and without feeding directions on the trade packages is no longer a rarity. It has become the rule, rather than the exception.

Fifteen years ago when this policy was adopted, Mead Johnson & Company pioneered the way. Just as Mead's Dextri-Maltose was new and clinically unknown save among the leading pediatrists of the country, so was the ethical policy that accompanied its announcement and introduction to the profession.

How long, queried the medical fraternity, will this ideal be upheld? How long, speculated commercial organizations, can a firm that restricts its products exclusively to the doctor's use survive?

Time has answered both questions. Mead's Dextri-Maltose has met with ever increasing acceptance until its use has spread over the entire country, penetrating into the remotest places. There is scarcely a firm in good repute today but what has imitated the original policy of Mead Johnson & Company. The *ideal* prevails, establishing higher level of service because it is the ideal *wanted.*

The man who drives his car abhors the back seat driver. The physician who directs the feeding of the baby through the trying period of infancy can tolerate no interference coming from conflicting directions of commercial firms. His is the guiding hand in the course of feeding he has set out upon with each individual infant.

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MEAD JOHNSON & COMPANY

EVANSVILLE, INDIANA, U. S. A.

Makers of INFANT DIET MATERIALS EXCLUSIVELY

STREAK LIGHT RETINOSCOPY

STREAK Light Retinoscopy has revolutionized objective Refraction. The "Shadow Test" is now almost an exact science. Dr. J. C. Copeland's Simplified Technique is one of the greatest contributions to the refractionist.

That the principles are sound and practical is evidenced by the instruments now being made, which incorporate the features of the original Copeland Refractascope; but with no instrument except the Refractascope is the Copeland Technique to be had.

Streak Light Retinoscopy is Different

The Copeland Method of Retinoscopy is the simplest of all retinoscopic procedures. It is necessary to understand the basic theory, however, if the wonderful results of Streak Light Retinoscopy are to be obtained.

START RIGHT

If you are interested in this new system of retinoscopy, procure the original instrument and the Copeland course. The course alone is worth the price.

The Copeland 15 lesson course in Advanced Retinoscopy.
The Copeland Refractascope, B & L model, $60.00.
Graduated Payments If You Desire.
Regular Discount for Cash.

◆

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Sta

Rigg Optical Company

Quality Optical Products -

OMAHA, NEBR.

Denver,
Grand Island, Nebr.
Lincoln, Nebr.

Hastings, Nebr.
Kansas City, Mo.
Sioux City, Ia.

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, June, 1928 No. 6

COLLEGE OF PHYSICIANS PHILADELPHIA
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JUN 5 1928

for spring colds which hang on

Stubborn Coughs

which hang on as the season changes demand effective treatment.

Calcreose

and Compound Syrup of Calcreose are particularly valuable in these cases.

Calcreose

offers the full expectorant action of creosote without most of the disagreeable gastric disturbances produced by plain creosote.

Try Calcreose!

It is a loose chemical combination of creosote and hydrated calcium oxide from which the creosote is slowly released.

Also . . . a valuable remedy in Enteritis

Sample of Tablets to Physicians on Request.

THE MALTBIE CHEMICAL CO.
Manufacturers of Pharmaceutical Products
NEWARK, N. J.

℞
Calcreose Tablets grs iv No. 100
Sig: Two to four tablets after meals and at bed time followed by a glass of milk or water.
100 Coated Tablets Calcreose

Calcreose

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PETERS TRUST COMPANY
Farnam at Seventeenth

IPRAL
(calcium ethylisopropylbarbiturate)
A Superior Hypnotic marketed by SQUIBB
SQUIBB
TABLETS
Ipral
Calcium Ethylisopropylbarbiturate
2 Grains
A Superior Hypnotic
E·R SQUIBB & SONS
NEW YORK

SLEEPLESSNESS, as a symptom, occurs in a great variety of cases. Unfortunately, most hypnotics lose their effectiveness quickly, and the dosage must be increased. IPRAL has been given to a great many individuals for the past several years, and so far it has been found necessary, in but very few cases, to increase the usual 4-grain dose to 6 grains. IPRAL is of particular advantage in mental or nervous cases attended with prolonged loss of sleep; its use in such cases has brought about apparently natural sleep, and has quieted the nervous symptoms to a great degree.

IPRAL is of value in treatment of drug habituation. One of the characteristics of this superior hypnotic is the fact that it not only produces sleep the night it is administered, but its sedative action persists so that as a rule the patient sleeps also on the following night, without additional medication. A patient who has previously found it necessary to resort to hypnotics is not only greatly improved, but highly elated when he finds that he is able to do without a hypnotic even for one night.

DOSAGE

As a sedative, or for ordinary insomnia, one or two IPRAL TABLETS (*2 to 4 grains*) are usually sufficient; as a hypnotic, two tablets (*4 grains*) are usually effective, although, according to Jackson and Lurie, as much as 15 grains may be given with absolute safety.

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

The Back Seat Driver in INFANT FEEDING

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EVANSVILLE, INDIANA, U. S. A.

Makers of INFANT DIET MATERIALS EXCLUSIVELY

WITH a willing and faithful slave to follow us around the course, making his shield of tropical foliage, a cool and restful shade for our every stroke; what a sweet licking we could give Old Man Bogey!

This is the season of outdoor sport. It is also the season of Glarestrain (Optiphosis). Protect your patients from excess and reflected glare. Enable them to enjoy more fully the healthful pleasures of week ends and vacations.

Soft-Lite Lenses are pleasing in tint; are non-habit-forming; permit of a natural flow of light to the eyes, absorbing only the irritating glare; are offered in three gradations of tint to suit any degree of sensitivity.

Soft-Lite Glare Filtering Lenses
Complete Comfort
Complete Service

Riggs Optical Company
- *Quality Optical Products* -

OMAHA, NEBR.

Denver, Colo.
Grand Island, Nebr.
Lincoln, Nebr.

Hastings, Nebr.
Kansas City, Mo.
Sioux City, Ia.

THE ACUTE ABDOMEN

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, July, 1928 No. 7

For Enteritis

AT THIS SEASON an efficient intestinal antiseptic is in great demand.

Creosote in the form of Calcreose supplies this need.

It is valuable as an intestinal antiseptic in the treatment of Enteritis and similar intestinal disturbances.

It can be given in large doses for long periods without apparent difficulty.

THE MALTBIE CHEMICAL CO.
Manufacturers of Pharmaceutical Products
NEWARK, N. J.

℞
Calcreose Tablets grs iv No. 100
Sig: Two to four tablets after meals and at bed time followed by a glass of milk or water.
100 Brown Coated Tablets Calcreose 4 Grains
The Maltbie Chemical Co.

Calcreose

COLLEGE OF PHYSICIANS OF PHILADELPHIA LIBRARY JUL 2 1928

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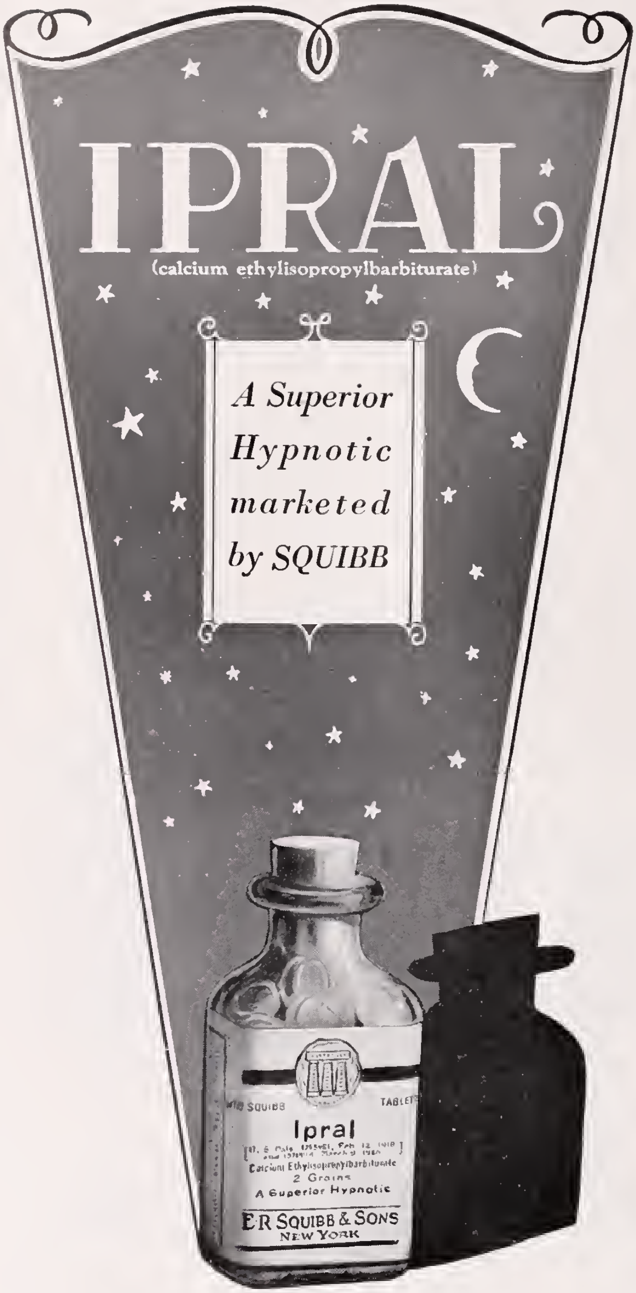
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MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

There is a Greater Measure of Safety in Mead's Dextri-Maltose

Nothing tells more graphically the story of greater safety—the freedom from nutritional disturbances in infant feeding that goes with the use of Mead's Dextri-Maltose than the circumstances surrounding its introduction in England.

It had been used there for over three years as a carbohydrate addition to cow's milk mixtures. During this period results from its use had been quite satisfactory. In England, as in America, it had been prescribed by the level tablespoonful.

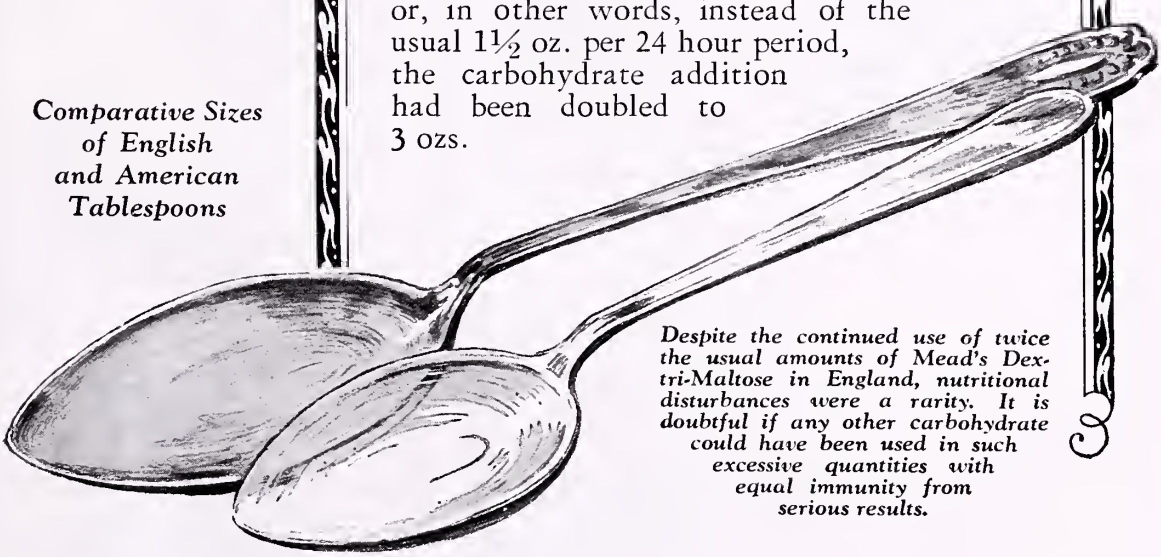
After three years of good results a prominent English pediatrist pointed out that the British tablespoon is twice the size of the American. The English level tablespoon holds ½ oz. of Dextri-Maltose, the American ¼ oz. Where 6 American tablespoons had been prescribed in 24 hours the infant was actually taking 12 or, in other words, instead of the usual 1½ oz. per 24 hour period, the carbohydrate addition had been doubled to 3 ozs.

MEAD'S

THE
MEAD POLICY

MEAD'S infant diet materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

Samples and Literature on Request



Comparative Sizes of English and American Tablespoons

Despite the continued use of twice the usual amounts of Mead's Dextri-Maltose in England, nutritional disturbances were a rarity. It is doubtful if any other carbohydrate could have been used in such excessive quantities with equal immunity from serious results.

MEAD JOHNSON & COMPANY

Evansville, Indiana

Infant Diet Materials Exclusively

Down in Front!

IT TAKES all kinds of people to make up a world, and perhaps oversize folks are necessary in the scheme of things. They are surely a nuisance to the rest of us, though, when they come between our eyes and the movie screen.

So it is with bifocals. Large segments are needed for special uses; desk work, figure checking, reading, drawing, studying, etc.; in fact many occupations demand special bifocals in which the reading area may even exceed the distance in size.

But for the average case, refractionists are pretty well agreed that bifocal segments are, mostly, too large. A prominent Los Angeles practitioner states:

"My office has given the size of the segment a great deal of thought and has arrived at the following conclusions: (1) that in 80% of cases requiring bifocals, patients may be fitted with segments 15mm or less in diameter, thus cutting prism displacement to a minimum; (2) that if made larger, the segments are a handicap and a detriment except in special cases where much reading is essential or the vocation requires special handling; (3) that the size of the segment should be governed, to a large extent, by the pupillary distance and the size of the pupils."

Nokrome 16 Qualities

NOKROME 16—

Has a small segment.
Is entirely free from chromatic aberration.
Gives extreme clarity of vision,
And complete invisibility of division line.

Order Nokrome 16 on your next bifocal prescription. You will be pleased and so will your patient.

Riggs Optical Company

- *Quality Optical Products* -

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POLIOMYELITIS

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, August, 1928 No. 8

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For Enteritis

AT THIS SEASON an efficient intestinal antiseptic is in great demand.

Creosote in the form of Calcreose supplies this need.

It is valuable as an intestinal antiseptic in the treatment of Enteritis and similar intestinal disturbances.

It can be given in large doses for long periods without apparent difficulty.

THE MALTBIE CHEMICAL CO.
Manufacturers of Pharmaceutical Products
NEWARK, N. J.

℞
Calcreose Tablets grs iv No. 100
Sig: Two to four tablets after meals and at bed time followed by a glass of milk or water.
Dr.
100 Brown Coated Tablets
Calcreose
4 Grains

Calcreose

A Suggestion to Professional Men

PROFESSIONAL men know that only years of training qualify one for his profession, and also that years of experience are necessary to produce good business judgment.

Your accumulation of years should be entrusted only to experienced hands.

The Trust Department of this company is directed by qualified men who will be glad to advise you without charge.

PETERS TRUST COMPANY
Farnam at Seventeenth

An important recent development in infant feeding

The colloidal action of Knox Sparkling Gelatine is particularly desirable in the summer diet

THE colloid-chemical power of gelatine has been proved by Drs. Alexander, Bogue, Downey and other authorities. Gelatined milk is being used by many physicians and in many institutions. It is more easily digested and absorbed. It increases the available nourishment of the milk mixture. Because it prevents the formation of large curds, it helps overcome regurgitation and vomiting. It is useful in the diet of infants with curdy stools, diarrhea, constipation, colic or excessive gas formation.

In addition to its proved value in infant feeding, Knox Sparkling Gelatine is an important adjuvant in the diabetic diet, where it increases protein content and satisfies the craving of the patient for bulk in his food. In liquid and soft diets, Knox Sparkling Gelatine adds variety to the menu with dozens of dainty appetizing dishes.

For 40 years Knox Sparkling Gelatine has been our one standard product. From raw material to finished package, every process in its manufacture is subject to constant chemical and scientific control. Knox Sparkling Gelatine is all pure gelatine, unbleached, unflavored, free from sugar.

CAUTION!

All gelatines are not alike. Many have added acid, flavoring and coloring matter. In the form of ready prepared desserts, they contain as high as 85 per cent carbohydrates.

Knox Sparkling Gelatine is a protein in its purest form, particularly suitable where carbohydrates and acids must be avoided. It contains more than 80 per cent pure protein (4 calories per gram) and has the same neutrality as milk.

Specify Knox when you prescribe gelatine and you will protect the patient from brands unsuitable for his dietary purposes.

Valuable dietetic information available

Noted dieticians have prepared the following booklets, setting forth the value of Knox Sparkling Gelatine in medical practice, and offering many appetizing recipes for its use in the various prescribed diets. Data on interesting scientific tests is also available. Simply check the coupon below and mail it to us.

KNOX GELATINE LABORATORIES
429 Knox Avenue, Johnstown, N. Y.

Please send me, without obligation or expense, the booklets which I have marked. Also register my name for future reports on clinical gelatine tests as they are issued.

☐ Varying the Monotony of Liquid and Soft Diets
☐ Diet in the Treatment of Diabetes
☐ The Value of Gelatine in Infant and Child Feeding
☐ The Health Value of Knox Sparkling Gelatine

Name__________ Address__________

City__________ State__________

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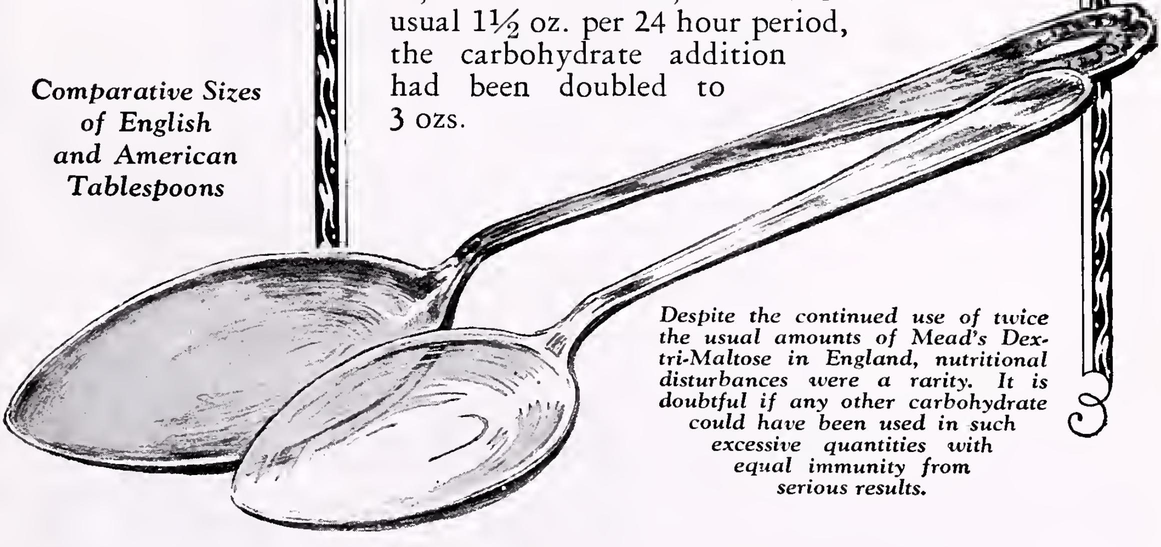

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- *Quality Optical Products* -

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PRENATAL AND POSTNATAL CARE

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, September, 1928 No. 9

Tasty! Effective!

Effective . . . and decidedly pleasing to the taste is this new member of the "Accepted" family . . . *Compound Syrup of Calcreose.*

Write us to-day for physician's liberal sample to taste and test!

Each fluid ounce of *Compound Syrup of Calcreose Maltbie* represents Calcreose Solution, 160 minims (equivalent to 10 minims of pure creosote); Alcohol, 24 minims; Chloroform, approximately 3 minims; Wild Cherry Bark, 20 grains; Peppermint, Aromatics and Syrup q. s.

Rich in Calcreose . . . which provides the stimulant expectorant action of creosote and avoids gastric distress . . . this new Calcreose product furnishes a remedy for coughs and minor respiratory affections easy to take and quickly effective.

The MALTBIE CHEMICAL CO.
NEWARK, NEW JERSEY

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PETERS TRUST COMPANY
Farnam at Seventeenth

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ADRENALIN

[The Parke, Davis & Co. Brand of Epinephrin, U. S. P.]

IT IS not alone by restoring heart action in cases of apparent death from shock that Adrenalin has earned its reputation as a life-saver. In cases of collapse when the heart fails because of ebbing stimulus, Adrenalin supplies that stimulus by its direct cardiac action and by increasing the blood-sugar—glycogenolysis. And in many a less extreme case (of asthma for example) Adrenalin has rendered the patient's life endurable and prolonged it for years.

It is in daily demand for the reduction of inflammatory conditions of the mucosa—in eye, nose, throat and genito-urinary practice; also for its styptic effect in hemorrhagic conditions, and as an aid to the economical and satisfactory use of local anesthetics.

Adrenalin was made available to the medical profession by Parke, Davis & Co. in 1901 as a result of researches begun in our laboratories in 1900, and was the first hormone ever isolated from an animal organ.

Literature will be supplied to physicians on request.

PARKE, DAVIS & CO.

DETROIT, MICHIGAN

ADRENALIN (EPINEPHRIN, P., D. & CO.) IS INCLUDED IN N. N. R. BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION

MEAD'S
Boilable
PROTEIN MILK
Powdered

APPROXIMATE ANALYSIS

Protein	39.0
Lactose	24.0
Butter Fat	27.0
Ash	6.0
Lactic Acid	2.0
Moisture	2.0

FOOD VALUE

1 Ounce of Dry Powder=144 Calories
1 Ounce Fluid Normal Dilution=12 Calories

MEAD'S Powdered Boilable Protein Milk can be readily reliquefied with water of any temperature. It has the unique advantage that when sterile feedings are desired the reliquefied mixture can be boiled to render it sterile without causing coagulation of the casein in the solution or change in physical properties or chemical constituents. Furthermore, boiling does not cause change of color or taste

DESCRIPTION

Mead's Powdered Boilable Protein Milk is almost white in color; has a pleasant, faintly acid odor and a pleasant, slightly acid milk taste. The powder can be readily mixed with cool or hot water to form a fine suspension. Due to the hydrogen ion concentration the mixture has a low buffer action.

It is especially satisfactory because of the ease with which feedings can be prepared and because the curd remains in a finely flocculent condition even when the mixture is boiled.

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Samples and Literature on Request.

MEAD JOHNSON & CO., *Evansville, Ind.*

Makers of Infant Diet Materials

Three out of every four backward school children have defective vision. An examination of every school child's eyes, each semester would eliminate the unfair struggle of thousands of school children.

Failure *or* Success

THE future of the child is largely in the hands of the parent and the instructors in our public schools. His or her happiness and success in life depends upon the watchfulness and care exerted at home and in the schools.

Authorities state that more than 60% of the school children have eye defects of a sufficient degree to warrant correction. Three out of every four "backward" pupils have poor eyes.

Those of us interested in Optical Science, as applied to correcting eyesight, realize the importance of our work and its effect on the eyes of our future citizens.

Are we doing our bit?

We should do everything in our power to promote eye examinations of school children's eyes. When parents and teachers are aware of the results of defective vision, they will better guard the precious sense of sight, and the happiness and success of our children will become more certain.

The new school year is upon us and the time is ripe for acquainting parents and teachers with the dangers of poor eyes among school children.

Let us, each, in our daily contacts and with the various means at our disposal, tell the story of eyesight conservation.

Riggs Optical Company

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A Suggestion to Professional Men

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Your accumulation of years should be entrusted only to experienced hands.

The Trust Department of this company is directed by qualified men who will be glad to advise you without charge.

PETERS TRUST COMPANY
Farnam at Seventeenth

Announcing A Palatable and highly nutritious Maltose - Dextrin Preparation

Exceedingly Rich in Vitamin B and Assimilable Iron Salts

SQUIBB'S VITAVOSE

Accepted by the Council on Pharmacy and Chemistry, A. M. A.

PREPARED FROM MALTED WHEAT GERMS

COMPOSITION OF VITAVOSE

	Per Cent.
Maltose	38
Malto-Dextrins	20
Dextrin	20
Soluble Amino and other Nitrogenous Substances	7
Soluble Proteins	8
Mineral Salts*	4
Moisture	3

*Natural Iron Salts 0.0125

PHYSIOLOGICALLY TESTED

Squibb's Vitavose contains at least *100 times* as much of the *antineuritic factor* as does fresh, raw, certified, *whole cow's milk:* and about *33 times* as much of the *pellagra - preventing factor.*

Vitavose is readily assimilated, is rich in iron, and, because of its high Vitamin B content, stimulates the appetite.

SQUIBB'S VITAVOSE as a milk modifier in infant feeding not only furnishes the desired additional carbohydrates but also supplies in abundance both iron and the water-soluble Vitamin B, including the growth-promoting, pellagra-preventing and antineuritic factors.

Deficiency of Vitamin B is not confined to infant diets. In adults, anorexia, lowered vitality, certain gastro-intestinal and neurologic symptoms are frequently referable to avitaminosis of the water-soluble factor "B". Vitavose is especially useful for supplementing the diets of children, expectant and nursing mothers, convalescents and malnourished adults.

SQUIBB'S VITAVOSE is supplied in moisture-proof tins containing one pound.

Directions, Modification Tables, Prescription Pads and complete information sent to physicians on request. Address Professional Service Department, E. R. Squibb & Sons, 80 Beekman Street, New York, N. Y.

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

"The Line Test"

In Infant Feeding

IF medicine had been born a complete science; if the law of variation could be suspended, it is conceivable that the sum and total of human knowledge could be encompassed in a single volume, the science of medicine could consider its conquests complete and its responsibilities for further research ended.

But this is not the case. Exceptions constantly appear, the old order is found to possess its limitations, necessity, the mother of invention, provides another and still greater urge. So finality is always in the offing—the last word is never spoken.

It was the recognition of the law of variation that prompted the assertion that each infant is a law unto itself and feeding must be adjusted to its individual needs. Even then, exceptions arose, they still arise and from these necessities, progress in the art of infant feeding and science in the preparation of infant diet materials emerges.

Resources are valuable only as they are assembled to serve greater and ever varying ends. To exercise his own resources to their fullest extent, to enjoy the selective principle with the utmost freedom, the physician demands a latitude in the choice of dietary materials at his disposal, just as infants demand a wide variation to suit their needs.

This then, is the test, not a single product, but a *line* of infant diet materials that increases the range and scope of the physician's skill just as it increases our alertness and zest to serve his needs.

* * *

Dextri-Maltose—A highly assimilable carbohydrate for cow's milk modifications.

Recolac—A reconstructed milk for traveling or where the milk supply is faulty.

Casec—The principal protein of cow's milk, for the correction of fermentative diarrhoea.

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Malt Soup Stock—For use in cases of an idiosyncrasy against carbohydrate.

Lactic Acid Milk—Uniform in composition and acidity, flows freely, no curds.

Florena—A wheat flour especially useful for Butterflour or Butter Soup Mixtures.

Powdered Milk—Clean milk of known origin, tuberculin tested, low bacteria count.

Samples and Literature on Request.

MEAD JOHNSON & COMPANY
EVANSVILLE, INDIANA, U. S. A.

Duo-Rede

A New
Occupational Bifocal
One Piece Construction

A Precision Lens
Made of Soft-Lite Glass

THE modern person, whose eyes need optical assistance, is gradually coming to look upon glasses with a critical eye. All about him is seen a continual change in styles of mountings; closer inspection, too, reveals odd or different sorts of lenses.

He wonders.

Are his own glasses correct? Are they suited to his work—or play?

Surely—very surely—is coming the general practice of having sets of glasses instead of single pairs; glasses designed for the occasion or the work at hand.

How can one pair of glasses possibly suffice, in this day of correctness and efficiency?

We show here a new utility bifocal called the Duo-Rede. It is intended for special use—not general wear—for the patient who must have a double vision lens, but who requires a greater range of near than distance vision.

The refractionist will, in his daily practice, find many cases where this new type of utility lens may be prescribed.

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THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. XIII Norfolk, Nebraska, November, 1928 No. 11

Remember! *when treating stubborn coughs you have available*

CALCREOSE offers the full expectorant action of creosote in a form agreeable to the patient.

Each 4 gr. tablet contains 2 grs. of creosote combined with calcium hydroxide.

Calcreose

Meeting the demand for a cough syrup containing *Calcreose* is the new COMPOUND SYRUP OF CALCREOSE . . . a tasty, effective remedy for minor respiratory affections.

Each fluid ounce represents Calcreose Solution, 160 minims (equivalent to 10 minims of pure creosote); Alcohol, 24 minims; Chloroform, approximately 3 minims; Wild Cherry Bark, 20 grains; Peppermint, Aromatics and Syrup q.s. *Samples of Tablets and Syrup to Physicians on Request.*

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NEWARK, N.J.

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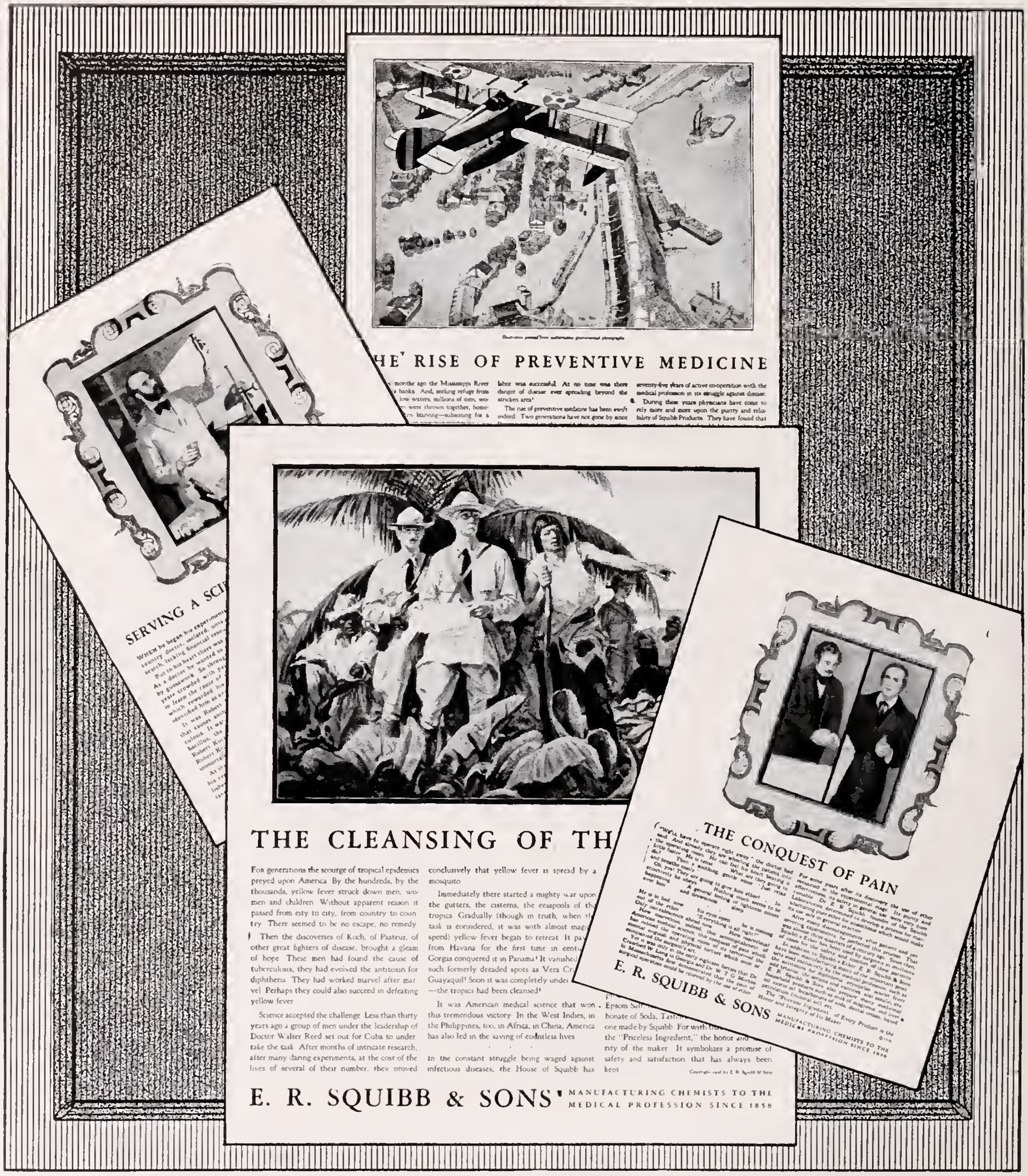

HE' RISE OF PREVENTIVE MEDICINE

SERVING A SCI

THE CLEANSING OF TH

For generations the scourge of tropical epidemics preyed upon America By the hundreds, by the thousands, yellow fever struck down men, women and children Without apparent reason it passed from city to city, from country to country There seemed to be no escape, no remedy

Then the discoveries of Koch, of Pasteur, of other great fighters of disease, brought a gleam of hope These men had found the cause of tuberculosis, they had evolved the antitoxin for diphtheria They had worked marvel after marvel Perhaps they could also succeed in defeating yellow fever

Science accepted the challenge Less than thirty years ago a group of men under the leadership of Doctor Walter Reed set out for Cuba to undertake the task After months of intricate research, after many daring experiments, at the cost of the lives of several of their number, they proved conclusively that yellow fever is spread by a mosquito

Immediately there started a mighty war upon the gutters, the cisterns, the cesspools of th tropics Gradually (though in truth, when th task is considered, it was with almost mag speed) yellow fever began to retreat It pa from Havana for the first time in centu Gorgas conquered it in Panama! It vanished such formerly dreaded spots as Vera Cr Guayaquil! Soon it was completely under —the tropics had been cleansed!

It was American medical science that won this tremendous victory In the West Indies, in the Philippines, too, in Africa, in China, America has also led in the saving of countless lives

In the constant struggle being waged against infectious diseases, the House of Squibb has

Epsom Salt bonate of Soda, Taste one made by Squibb For with the "Priceless Ingredient," the honor and rity of the maker It symbolizes a promise of safety and satisfaction that has always been kept

E. R. SQUIBB & SONS MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

THE CONQUEST OF PAIN

E. R. SQUIBB & SONS MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

THE entire trend of modern medical practice is towards prevention.

It is the purpose of the announcements of E. R. Squibb & Sons to keep in step with this development. An entire campaign appearing in colors in the country's leading magazines is urging the layman to visit his physician and take advantage of the remarkable new advances of medical science.

These announcements, it is hoped, will help decrease the great number of people who, even today, still succumb to preventable diseases. They may perhaps contribute also to bringing about a closer relation between the physician and the layman.

Cooperation with the medical profession has always been one of the fundamentals of the Squibb Policy. And this advertising conforms strictly to the high professional standard which has characterized E. R. Squibb & Sons for almost three-quarters of a century.

E·R·SQUIBB & SONS, NEW YORK
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MEAD JOHNSON & COMPANY
EVANSVILLE, INDIANA, U. S. A.

The peep-holes of a mask restrict vision to a narrow area because of their narrow angle of view.

Ordinary lenses are like a mask because you receive accurate images only in the center.

Orthogons unmask your eyes by giving perfect vision to the extreme margins of the lenses.

UNMASK
YOUR PATIENTS

WHEN your patients are fitted with ordinary lenses they are, in a measure, masked. Clear and strain-free vision is possible only through a small portion near the center of each lens.

Practitioners have known that marginal astigmatic errors could be eliminated, but such lenses as would accomplish this have hitherto been available only with considerable loss of time and consequent annoyance.

Now in the ORTHOGON series, we have fully corrected lenses which may be obtained on prescription orders with the same service as ordinary lenses. Now you can prescribe lenses which completely translate your findings and give your patients precise correction over the entire vision range.

Unmask your patients with ORTHOGON lenses!

Riggs Optical Company

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Vol. XIII Norfolk, Nebraska, December, 1928 No. 12

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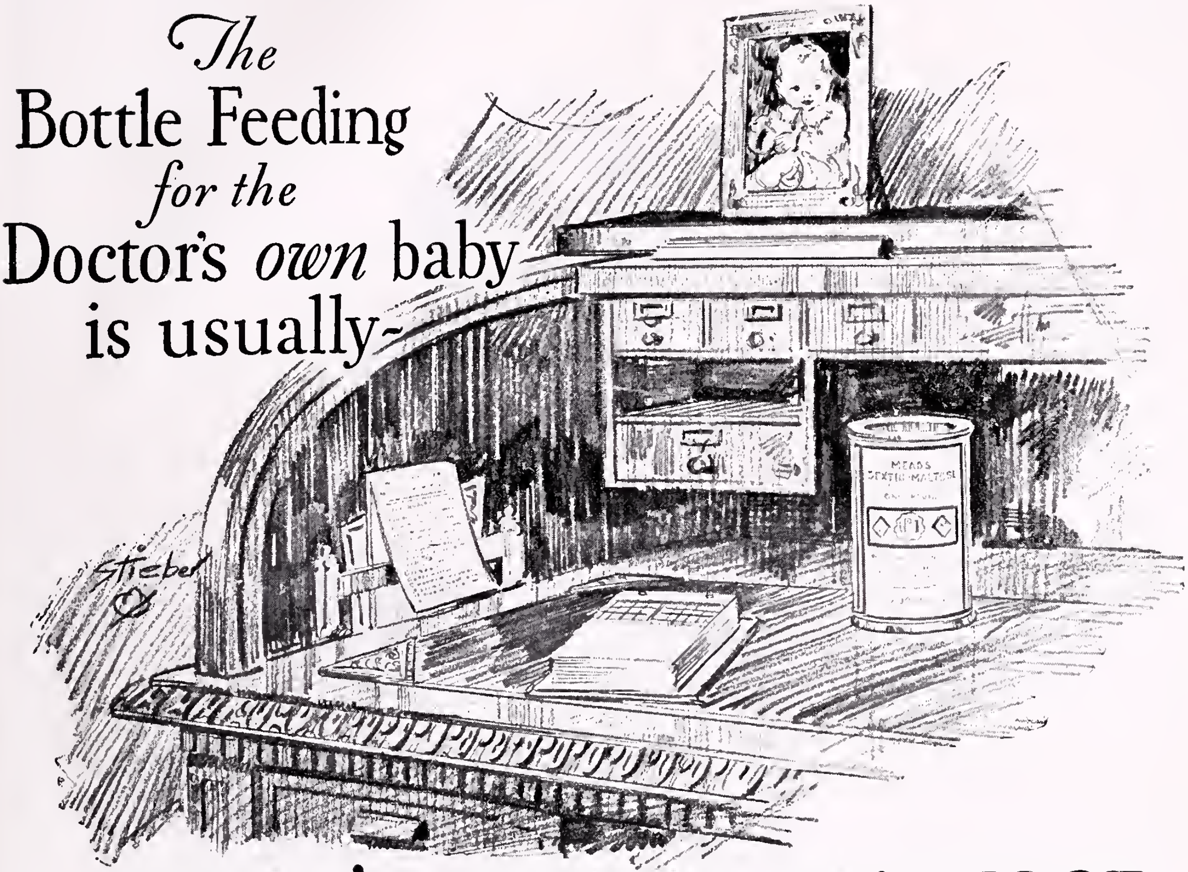

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